

The National Locksmith[®]

August 2003
Volume 74
No. 8
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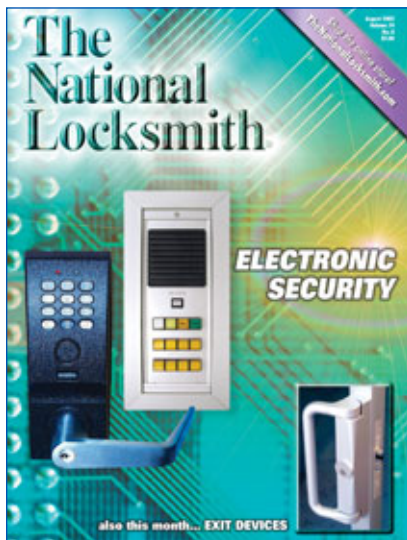


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On The Cover...



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COMMENTARY



Frequently Asked Questions: Just the FAQ's ma'am

I've been cranking out 500 words a month now for twenty years since I first came to The National Locksmith. (Generally, like this 500, most of them were written either right at, or slightly after the deadline.) That works out to a career total of 120,000 words so far, just for this little Commentary.

I was thinking about that today as I realized that my beginnings here pre-date the internet era. Therefore, it's high time we had a set of FAQ's for the locksmith shop. So here's this month's 500 in the form of a FAQ.

Q: Do you make keys here?

A: Yes. And unlike Walmart, I actually know what kind of key you have there without sticking it into a plastic maybe-guess-your-key-maybe-not thingie. The good news is when you get home, your duplicates will work. The bad news is you won't be getting more bad keys to add to your windchime collection.

Q: Can you make car keys?

A: Actually, I'm glad you asked. Not only do we make a huge range of car keys, but we also make keys for high security cars. You might not be aware of it, but that Honda you have parked out there uses a transponder key. The key contains a computer chip that talks to the vehicle's computer when used in the ignition. That makes your car much harder to steal. But it also means that if you don't make a spare now, lose yours and you could literally need a tow and an expensive repair to make a key.

Q: Why are your locks more expensive than at the Home Center?

A: Because ours-unlike theirs-can't just be beaten off the door with a hammer in thirty seconds is the short answer. The longer answer is that we service, repair and stand behind every product we sell. Security is our only business. Since we shoot for a zero complaint level, and want to sell

you excellent security, we stock and install only locks which stand up to real world conditions.

Locks are not intended to keep the good guys out. They are intended to keep the thieves, vandals and all-around bad guys out of your home and business. Those guys generally come armed with pipe wrenches, hammers, crow bars and sometimes even lock picks.

We sell locks that stand up to a good beating. We even carry a line of pick resistant locks, able to foil a fistful of lock picks. When shopping for lumber, by all means buy the cheapest decent 2x4 you can find. But remember, you and your children are sleeping behind those locks. I sell you the locks that allow ME to sleep at night.

Q: What if I want a lock that doesn't use keys?

A: Then you've come to the right place. We install a variety of electronic access control products, some as small as one door systems. We can recommend locks that use PIN numbers for entry or even swipe cards. You can give a code to a house sitter that will function only for the week you're away. That way you don't even have to reset your own code.



***Have questions? Want free technical help?
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Marc Goldberg
Publisher

Mango's Message

Online Auction Fraud

I'm sure many of you have heard of eBay or Yahoo Auctions. If not, they are Internet web sites hosting online consumer public auctions, offering everything imaginable. eBay and Yahoo are just a couple of the online auction sites available, with eBay being the largest online auction in the world, posting millions of items every day.

Some people make their living auctioning common, as well as specialty items at these online auction sites on a daily basis. If you are in the market for a hard to find, obsolete, limited addition, collectors item, a turn of the last century antique, or just a run of the mill item, this is definitely a place to search.

When I say you can find anything, I do mean *anything*. You would be surprised at the amount of junk (*sorry, I know that one man's junk is another man's treasure*) as well as unique items you can find. You would also be surprised at how many people overbid for items during the frenzy of an auction, ultimately paying the price for something used what they could have purchased new. My advice for anyone interested in participating in online auctions — or in any auction for that matter — is to know the real value of items you are bidding on, and don't get caught up in the frenzy of a closing auction.

I periodically do searches for various items of interest on these auction sites. While doing so one day, it came as no surprise to find locksmith items for sale listed in the Yahoo auction site. I did a search for "Locksmith Tools" and up popped a list of 18 items found. I scanned the list and "LOCKSMITH GUIDE: DOOR LOCK ENCYCLOPEDIA" for \$12.00 caught my attention. There was a photo of the item available so I clicked on the camera and there it was, **The National Locksmith Guide: Door Lock Encyclopedia**. Huh, I wonder who is selling this book? I thought to myself. I wondered if it was a locksmith, and by chance if it was anyone I knew?

The sellers name or e-mail address is never listed on the auction, only an identification number and a city & state location. I checked it out, but I did not personally know any locksmiths in El Cajon, CA.

From here I checked out the *Description* of the book given by the seller:

Description

The National Locksmith Guide: Door Lock Encyclopedia

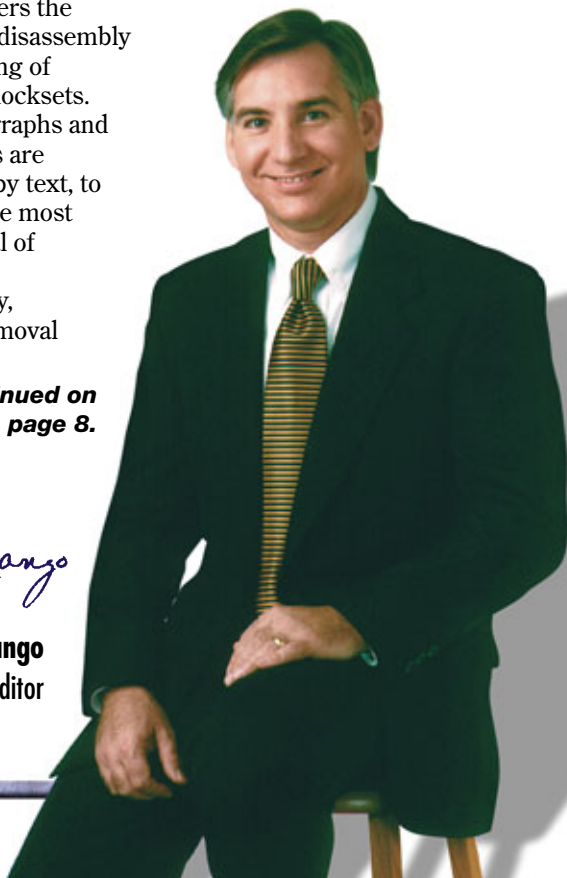
The Door Lock Encyclopedia is a clear and concise illustrated service manual illustrating service instructions for standard cylindrical locksets including **American Eagle, Arrow, Corbin, Dexter, Harlock, Kwikset, Lori, Master, National Lock/Amerock, Sargent, Schlage, Weiser and Yale**. It will equip you with specific knowledge and a few tricks to make servicing understandable, easy to master and profitable.

The information that you will find in the first section of this book is the result of experience and practice. It may well be the most helpful part of the book for some. A lot of 'why' questions, posed by locksmiths, are explained in this first section. The second section covers the systematic disassembly and servicing of cylindrical locksets. The photographs and illustrations are supported by text, to illustrate the most professional of lockset disassembly, cylinder removal

**Continued on
page 8.**

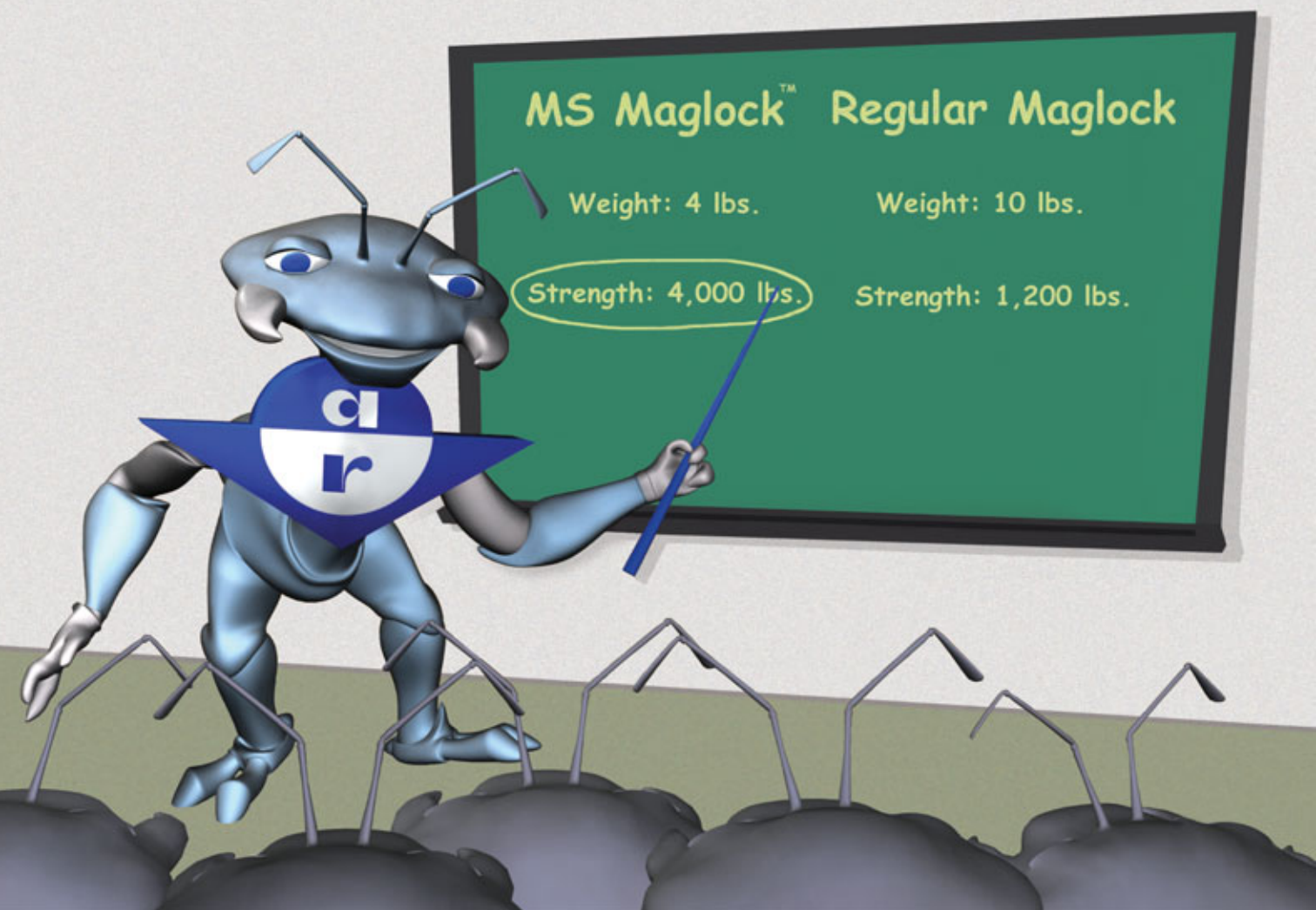


Greg Mango
Editor

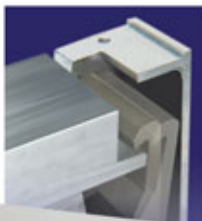


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www.adamsrite.com/ant12

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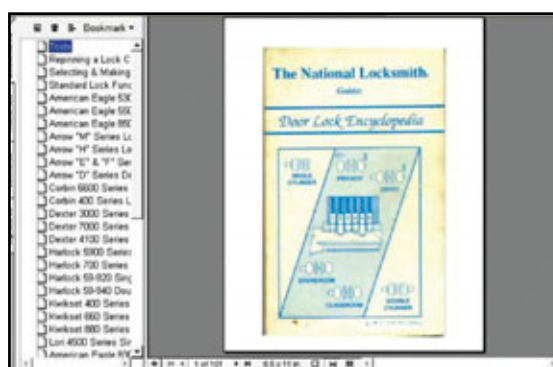
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	ILCO MOTORCYCLE KEY BLANK REFERENCE @ LOCKSMITH @ BUY NOW!	\$8.00	-	4 days 8 hrs
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	2002 ILCO AUTO TRUCK KEY REFERENCE @ LOCKSMITH @ NEW! BUY NOW!	\$6.00	-	9 days 7 hrs

Showing 1 of 1 pages (18 items total)

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scanned all the pages into a computer and then burned a copy of the information to a CD and was selling it on Yahoo and eBay for \$12.00-\$15.00 each, (depending on what the winning bid was) without us having any knowledge of it, or giving any permission to do so. This individual was violating our copyright on the book and committing fraud by repackaging the material without permission.

The National Locksmith Guide: Door Lock Encyclopedia was just one of a couple of our books transferred to CD and on the auctioning block by this individual. Another one was *The National Locksmith Flat Rate Manual for Locksmiths*. Besides material from *The National Locksmith*, there was also Ilco key blank reference books, Ilco automotive books and material by other publishers that was transferred from a paperback format to a CD format and now for sale by this same person.

I sent notices to both Yahoo and eBay regarding this issue and at the time of this writing *The National Locksmith* material has been taken off the auctions. However, others still remain.

I don't know who else would be interested in locksmith related material enough to want to repack it and sell it, but I sure hope it is not a locksmith in El Cajon, CA. that is doing this. However, this would not be the first time a locksmith has copied our material and made it available to the public. Is there really that much demand, or money to be made for this material that a locksmith would be willing to tarnish his name and reputation for?

TNL

and identification. More than a book of exploded views, this is a book of "specific maintenance techniques".

Entire Manual on CD-ROM in PDF Format. (*Portable Document Format*) This can be viewed and printed using **Adobe Acrobat Reader** (any version), which is compatible with most Operating Systems including Mac. You can opt to use the entire manual right on your computer, print the entire manual, or just print the parts that you want a hard copy of. This is exactly the same as the hard copy manual and will render clear and concise images.

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Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Framon Founder "Frank P. Agius" Dead at 78

Born May 6, 1925, Frank P. Agius died of Alzheimer's in Alpena, Michigan on Saturday, May 17, 2003. Frank suffered with Alzheimer's for several years, yet hardly ever complained of his condition. On September 17, 1955 Frank wed the love of his life Barbara Noah and had eight siblings, soon thereafter a man and his legacy began to develop.



Frank started locksmithing in 1963 while working for himself as a cabinetmaker. A salesman in the area mentioned to him that there was a need for a locksmith in the area, so Frank began taking Leonard Singer's correspondence course.

Frank developed the Framon #1 code machine in 1967 for his own use.

Sam Solomon, of Hugo Solomon & Sons in Detroit, found out about it and helped Frank form a company with the help of a few additional investors. The Framon Dual Code Machine was issued a patent in early 1970's and the first sale was to Ed Phillips in New York. In 1975, the #2 code machine was introduced, featuring a tilting spindle for keys with angled cuts.

The lock shop and machine assembly area was in Frank's house until 1978, when the business was moved to a new office on Washington Avenue in downtown Alpena. In 1982, a machine shop was added onto the existing building to manufacture parts in-house.

Frank began doing education with Bill Reed in 1984, and the "Frank & Bill" show was started. The traveling road show brought about the concept of free education to the locksmith industry. Frank & Bill continued to add folks such as Gerry Finch, Hank Spicer, Steve Young, Gale Johnson, Mike Miller, Jerry McNickle, and others along with their expertise to provide a weekend long educational experience that didn't cost the locksmith a penny. The traveling road show continued into the early 1990's, and Frank retired officially in 1994, with his last seminar being in Montana. Frank's teaching experience was the highlight of his career in locksmithing; he thoroughly enjoyed meeting the thousands of locksmiths in his travels and "talking shop".

Frank received the Donald Davis Memorial Award for education in 1987, the Wiegand Jensen award from the Penn-Ohio Locksmith Association (this one meant a lot as Frank and Wiggy were great friends even though they were also competitors) in 1992, and the Industry Award from the Greater Philadelphia Locksmith Association in 1993. Frank also received countless other awards of recognition from various trade associations in his lifetime.

Aside from the locksmith industry, Frank was an avid duck hunter, wood carver, outdoorsman, husband and father. Nothing made him happier than



spending time with his wife, children and grandchildren.

He is survived by his wife, Barbara, daughter Ann (John McConnell), two sons, Michael (Norma) and Phil (Pam), grandchildren Andrew, Carrie, Taylor and Mitchell, and son-at-heart Milt Clark (Colleen). Also surviving are two sisters, Beatrice Bielskis and Mary Ann Tylenda, both of Alpena, and three brothers, Vincent of Rogers City, James (June) of Bridgeport and Theodore (Barbara) of Atlanta, GA.

...a few words from Phil Agius

I would like to add that my dad really enjoyed meeting all of the locksmiths in classes and at trade shows. I think anyone who met dad always felt that he had time to answer questions and wanted to help out whenever he could. Some of his fondest memories were the years he traveled the country with Bill Reed, Steve Young, Hank Spicer, Mike Miller, Gerry Finch, Jerry McNickle, Gale Johnson, and Greg Mango, among others (I know I'm forgetting a few of you...sorry!). Other good friends dad always admired were Wiggy Jensen, Tom Swiderek, Bill Serbeck, Darrell Sims, and John Reed.

Thanks to all the thousands of you who attended dad's classes or stopped to say hi at the trade show booths. To say he enjoyed your friendship and associations is an understatement. Thanks for being a part of dad's life. He will be lovingly missed by his family.

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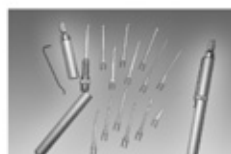
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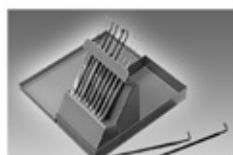
NDPK-24
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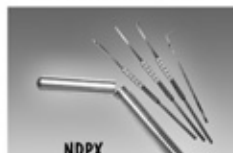
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HFTT-KIT
Hands-Free Tension
Tool Kit



COLOR-35
Color Coded Pick Set



NDPX
Dental-Style Pick Set



KGB-1
Mini Belt Pick Set



HPG-10
Pistolpick™



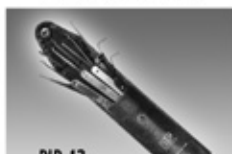
NDPK-32
Superior Pick Set



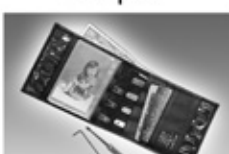
ES-2000
2000 Series
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BFW-8
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EMER-6
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PKS
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IMB-IIR
"I Mean Business"
Pick Sets



LPPS-2000
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Sounding Off

You invited people to sound off about the Master keying vulnerability issues you have been covering in your editorials. I sat down and put my thoughts down on paper, so here's my 2 cents worth.

I, along with everyone else in our industry, have been following your hot-hot-hot (perhaps more like a-Blaze) Mango's Message in TNL. If the truth be told everyone would realize that Mr. AT&T (that's Matt) has played this like a fine game of Chess. Every move well orchestrated, and I am sure well funded.

Last night I turned on the early-late news (?) and some reporter was standing out in a street in a darkened area talking about a highly coordinated, multi-location raid by the DEA and other local law enforcement agencies on Hell's Angels Clubs in and around San Diego. Witnesses said that the electricity went out in the area and then they heard a series of rapid explosions. That's standard operating procedures for the S.W.A.T. teams and others who need the element of surprise. The explosions were stun grenades at the rear of the building. They do no damage—they are designed to distract and confuse (those are two very important words) and while that was going on the raiders broke through/entered the front...job done...raid completed...nobody hurt.

If you'd like to try this yourself (the concept, not the explosions) just keep this trick to yourself (secret crypto stuff) and experiment. Take your buddy out for a "friendly" game of bowling—easy enough; just toss a 16-pound ball at 10 pins. The better he is at bowling, the better this technique will tend to work because it works on the mind, and those who don't take the game seriously don't really think about it that much (basic human nature).

To be a good bowler you need precision and consistency which means you have to concentrate. Anything that interferes, distracts or confuses will be detrimental (there's that darn mental stuff again) to his obvious objective, which is to get the highest pin count/score possible.

Technique: Allow a couple of frames to settle down and get the lay of the lane and then you point at him and begin to laugh. It's really great if you do this after he has gotten a strike or has done some other kind of exceptional feat so that he is thrilled about his skill and performance. He will naturally become confused because this is not normal behavior...he is expecting you to be in awe.

He'll then check his fly first and then probably ask you, what's wrong?" or "What's so funny?" To this you reply "Do you realize how obscene what you do with your left hand is while you are going up to throw your ball?" (Do this if he's right handed, otherwise reverse the hand because you want to get him concentrating on his Non Throwing Hand.)

That's it, you have planted your dastardly seed and the damage has begun. The next time he gets up to bowl his mind will no longer be focused on what he is supposed to be doing and his performance will drastically decline.

Now just apply all this to what Matt Blaze did and as Paul Harvey likes to say, "And now you know the rest of the story." Paul also likes to say; "Page 2!" which, like a local talk show host likes to say, is probably the most important method of cutting through all the con-artistry, distraction, garbage, smoke and mirrors and that is to simply, Follow The Money!

John Ulaszek

Ultra Security/XPERINETIX

P.S. It's just a matter of time before the real truth comes out and you'll see for yourself just how all this hits the nail on the head.

Is Door Doctor Dead?

In the February 2002 issue, Mango's Message was about the "Door Doctor" company and their notorious reputation for sub-contracting locksmith services and then not paying for the services rendered. Until I read Greg Mango's message, I hadn't heard of Door Doctor.

I tried going to their website, (doordocor.com) and all that came up was a blank page with "Please Contact Door Doctor at 301-585-5600" at the top of the page. There was no

way to get in to the website or any other information on the company. I assumed that since Greg's article was a year old, perhaps they closed down. I then went in to google.com and did a search for Door Doctor. That gave me a link to their products, so I was able to finally see what their site looked like.

At first, when it didn't seem like they had a site anymore, I was cheering for Greg and his article for passing on the word. I thought he may have helped to shut this company down. Now that I realize their site is still up, I'm still hoping that action will be taken and the truth will be known to every locksmith, so no more will fall into their trap.

Amethyst Bush
E-mail

Especially Useful

Thank you for an excellent magazine! Especially useful is the Buyer's Guide. I use this on a regular basis for hard to find items, and it has proven to be a true gem of a resource. Regarding bonds, I carry three. One with the contractors board which protects them (State of California), one personal, which protects my customers and the N.S.O., which is just plain cool!

As you know 98% of the bond is smoke and mirrors which the customer has more misconception than understanding of.

Thank you again for your offers, follow up, and for your support to our beloved industry.

Dave
California

Sad to Go

I regret having to write this, just as I regret having to retire. So I write to tell you that I will no longer be subscribing to the magazine.

I have thoroughly enjoyed every issue I have received and have had a lot of help from the magazine over the years. However, at 80 years old I believe it is time to roll up my bed roll and head for the wagon.

Have a great life and keep the active locksmith well informed.

Wayne Ramsey
North Carolina

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PowerLever Lock Series

If you have an area that needs increased security-educational facility, laboratory, valuables storage area, R&D area, pharmacy, special remote site, or main entrance to your facility-the PowerLever Door Lock is an ideal solution.



Photograph 1.

Every user has a unique access code to unlock the door. The lock is programmed using a keypad, a small device called a SmartKey™ that looks like a shirt button, or a Palm™ Pilot. The lock gives both audible and visible indicators, making it easy to use. Some PowerLever Door Lock models maintain an audit trail that is a powerful deterrent to crime. The audit trail can be retrieved quickly and easily. You can secure all areas at once with PowerLever Door Lock or your system can grow with your needs.

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PowerStar™ Technology

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Each user's PIN is unique and can be changed at any time.

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ADA-Compliant Lever with Clutching Mechanism.

Door Preparation & Installation

Easy installation in any standard ANSI 156.2 4000 Grade 1 cylindrical door prep application.

Mark the Door:

Accurate door preparation, including drilling throughbolt holes, is essential for proper operation. The hand and bevel of the door affect template use. For doors already prepped, make sure the preparation correctly matches the templates provided before drilling throughbolt holes. If the door preparation does not match the template, redrill the door to match the template.

To mark the door, complete the following steps:

1. Locate and mark the horizontal and vertical centerlines at the desired height above the floor.
2. Fold the template on the dashed line as indicated on the template. It is critical that the template be folded correctly on the proper dashed line to ensure proper hole alignment. Place the fold on the edge of the door. (*See figure 2.*) The horizontal and vertical centerlines on the door should be clearly visible and aligned with the centerlines provided on the template.

For Non-Prepped Doors:

3. Locate and mark the centerline for the 1" (25.4mm) diameter latchbolt hole on the door edge based upon the door thickness and the desired height above the floor.
4. Locate and mark the centerline for the 2-1/8" (54mm) diameter hole at the height marked for the centerline of the latchbolt. (*See figure 2.*)
5. Locate and mark the centerline for the 1" (25.4mm) diameter strike hole on the doorjamb at the same height as the latchbolt hole. (*See figure 3.*)

For all Doors:

6. Locate and mark the center for the four 11/32" (8.7mm) diameter throughbolt holes. (*See figure 4.*)
7. Locate and mark the center for the 1" (25.4mm) diameter thru-hole for the system cable.
8. Center punch all hole positions onto the door.

Drill the Doles:

Refer to *figure 5*, for summary drilling dimensions. An optional drill jig is available. (*See figure 6.*) Make sure the holes are drilled level and straight. When drilling through

Continued on page 18

Figure 2.

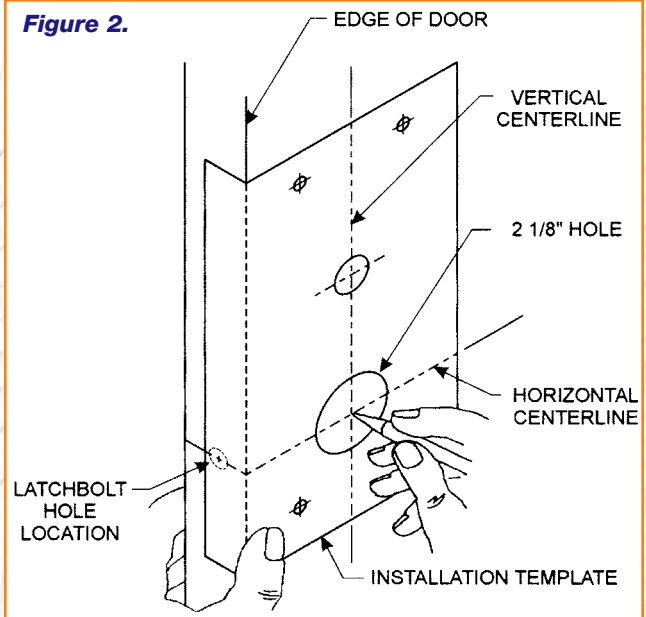


Figure 3.

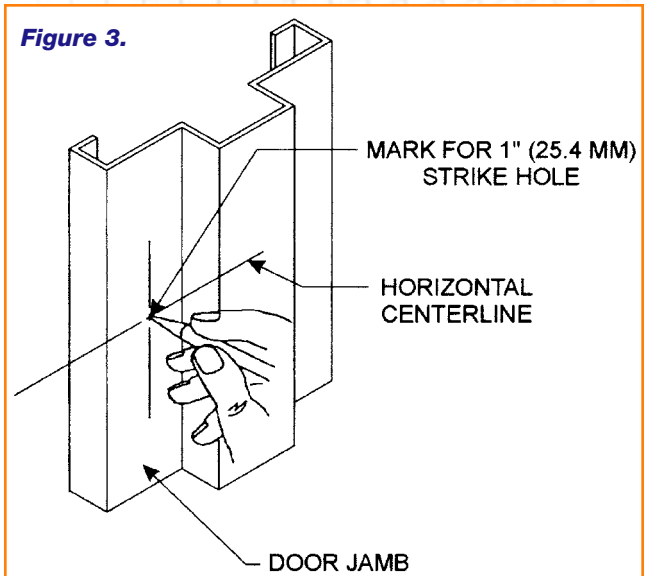
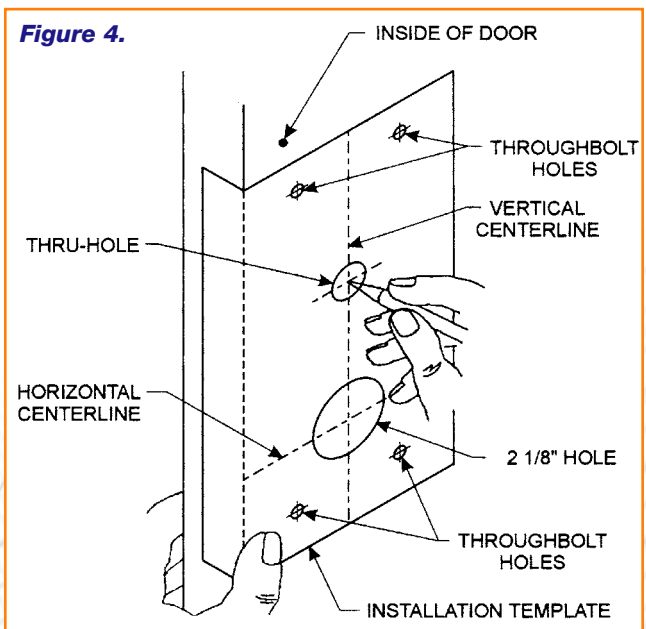


Figure 4.



PRO-LOK INTRODUCES STAINLESS STEEL PREMIUM PICKS

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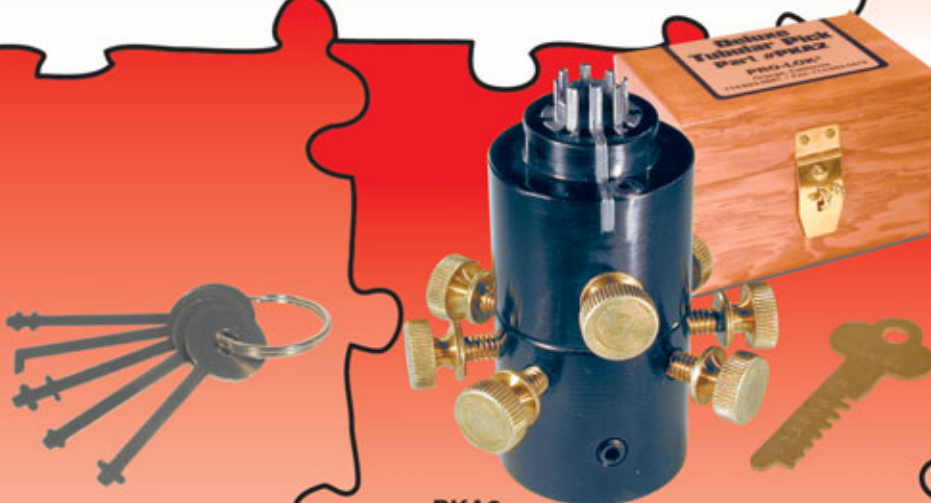
PKX-62
Pick Set 62 picks & case

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PKX-A1
7-Pin Ace Pick

The PRO-LOK 7-pin Ace Pick is a precision tool designed to easily open any standard 7-pin center Ace type lock. Set tension insert and rotate back and forth until the cylinder turns. Simple to use. Comes with depth decoder. Features a hard steel body with smooth sliding picking needles, knurled brass handles & vinyl sleeves for those who prefer the feel of rubber handles.

PKX-WP5
Warded Padlock Picks
Use to pick warded padlocks. 5 pc pick set.



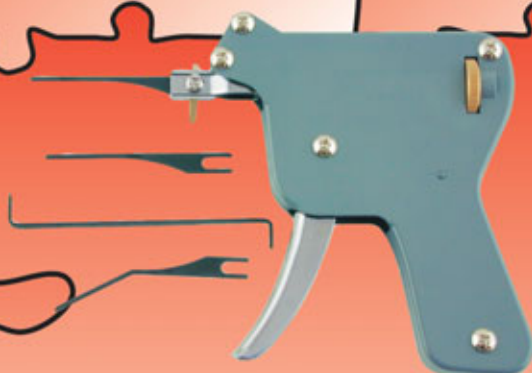
PKX-14
Pick Set 14 picks & case
 Our most popular pick set comes with 9 picks and a broken key extractor, all manufactured of tempered stainless steel and all with rivetless stainless steel handles, 4 tension wrenches in a soft luggage quality leather snap case.



PKX-20
Pick Set 20 picks & case
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- PKX-DM-H Double Mountain
- PKX-HDL-H 1/2 Diamond Large
- PKX-HDS-H 1/2 Diamond Small
- PKX-KE-H Key Extractor
- PKX-LC-H Large Comb
- PKX-LH-H Large Hook
- PKX-MH-H Medium Hook
- PKX-SB-H Single Ball
- PKX-TR-H Small Comb
- PKX-SC-H Traditional Rake

Picks without Handles

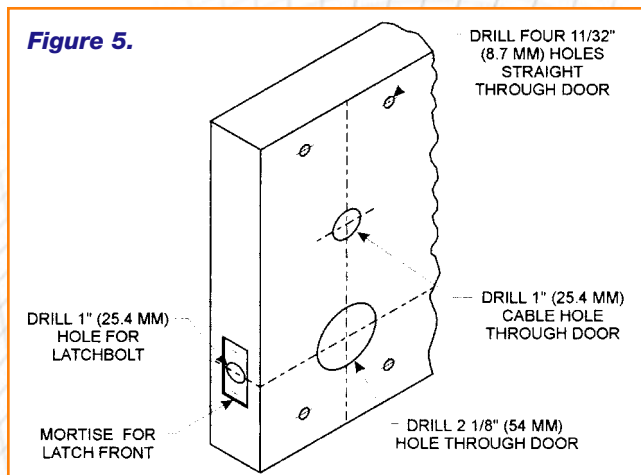
- PKX-DB-P Double Ball
- PKX-DM-P Double Mountain
- PKX-HDL-P 1/2 Diamond Large
- PKX-HDS-P 1/2 Diamond Small
- PKX-KE-P Key Extractor
- PKX-LC-P Large Comb
- PKX-LH-P Large Hook
- PKX-MH-P Medium Hook
- PKX-SB-P Single Ball
- PKX-TR-P Small Comb
- PKX-SC-P Traditional Rake

Tension Wrenches

- PKX-TW-F Forked
- PKX-TW-L Light
- PKX-TW-M Medium
- PKX-TW-R Rigid
- PKX-TW-TL Long Twist
- PKX-TW-TS Short Twist

Double Ended Picks

- PKX-DR-C Diamond/Rake
- PKX-HR-C Hook/Rake

Figure 5.

the door, be careful not to damage the door finish. It is recommended that safety glasses be worn during the drilling process.

For Non-Prepped Doors:

1. Drill a 1/8" (3mm) diameter pilot straight through the door where you marked for the centerline of the 2-1/8" (54mm) diameter hole.

2. Using the pilot hole, drill a 2-1/8" (54mm) diameter straight through the door. The 2-1/8" diameter hole in a labeled door shall be drilled under licensed procedure.

3. Drill a 1/8" (3mm) diameter pilot hole straight through the door edge where you marked for the centerline of the 1" (25.4mm) diameter hole for the latchbolt into the edge of the door. Make sure the latchbolt hole is level and perpendicular to the 2-1/8" (54mm) diameter hole.

4. Using the pilot hole, drill a 1" (25.4mm) diameter hole for the latchbolt into the edge of the door. Make sure the latchbolt hole is level and perpendicular to the 2-1/8" (54mm) diameter hole.

5. Mortise the edge of the door 1-1/8" x 2-1/4" x 5/32" (29mm x 57mm x 4mm) for the latch front.

For all Doors:

1. Drill four 11/32" (8.7mm) diameter holes straight through the door.

2. Drill a 1/8" (3mm) diameter pilot hole straight through the door where you marked for the centerline of the 1" (25.4mm) diameter hole for the system cable.

3. Using the pilot hole, drill the 1" (25.4mm) diameter hole for the system cable. Remove any burrs from the inside and outside edges of the 1" (25.4mm) diameter hole to prevent cutting of the system cable.

Optional Drill Jig:

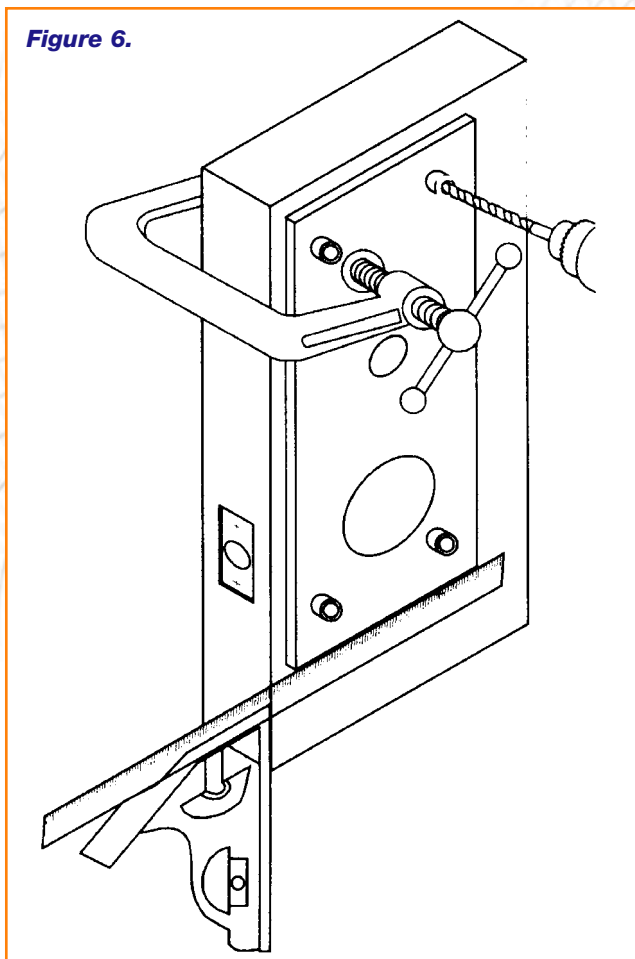
An optional Drill Jig, Part Number 404044, is available to insure accurate locating and drilling of the four 11/32" (8.7mm) diameter mounting holes, and the 1" (25.4mm) diameter system cable hole.

1. For the best results, align the jig to the door with a combination square and clamp to the door before drilling. (See Figure 6.)

Install the Latchbolt

1. Check the door swing and orient the latchbolt to the hand of the door. (See figure 7.)

2. Insert the latchbolt into the hole in the door as

Figure 6.

shown in figure 6. Using the latchbolt front as a template, centerpunch and drill two (2) 1/8" mounting holes.

3. Using the #1 Phillips head screwdriver, secure the latchbolt with the two #8 combination screws provided.

Adjust the Lockset for Door Thickness

1. Screw the lock chassis assembly in or out of the outside case assembly to obtain dimension "A" as shown in figure 8. The dimension "A" equals one-half of the door thickness as shown in the following chart.

Door Thickness

1-3/8" (35mm)

1-3/4" (44mm)

2" (51mm)

Dimension "A"

11/16" (17.5mm)

7/8" (22mm)

1" (25.5mm)

Using a tape measure, set/check dimension "A". This adjustment should result in the retractor being centered in the door. This measurement should be made from the back plate of the lock case.

Install the Lock Chassis/Outside Case Assembly:

1. Make sure that the latch holder slot in the chassis assembly face the front edge of the door. (See figure 9.) Handle the electrical wiring harness with care. Do not pinch the wires.

2. From the outside of the door, feed the solenoid cable through the 2-1/8" (54mm) hole. Ensure that the solenoid cable does not get tangled in the latchbolt mechanism.

Continued on page 22

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Figure 7.

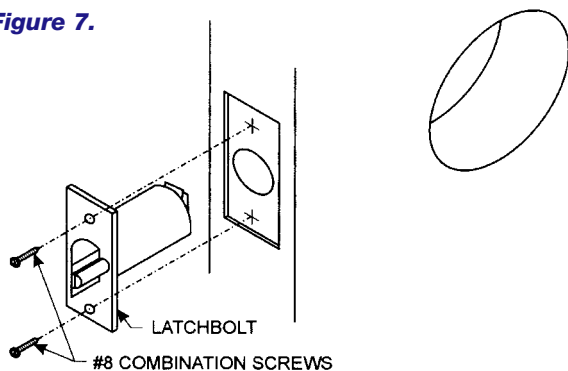


Figure 9.

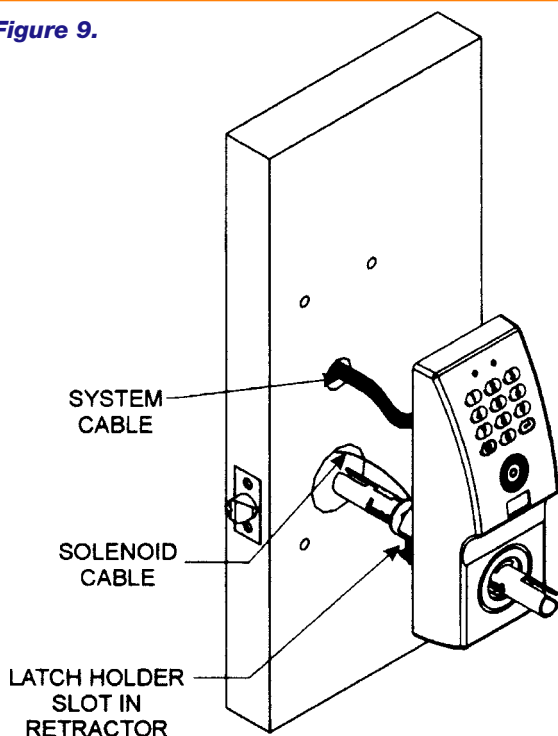


Figure 8.

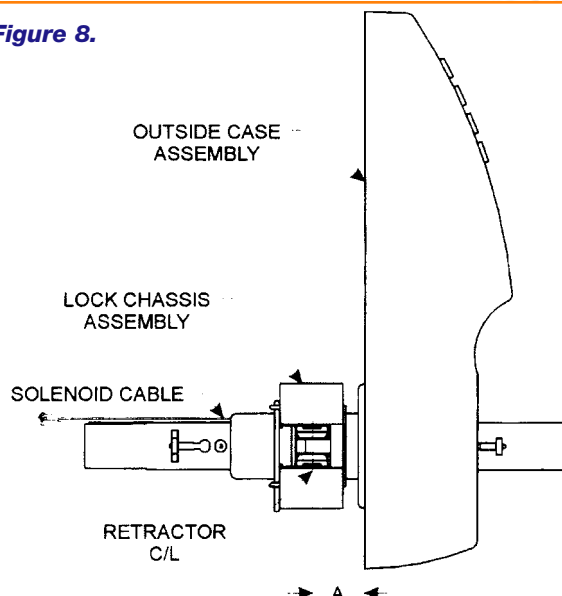
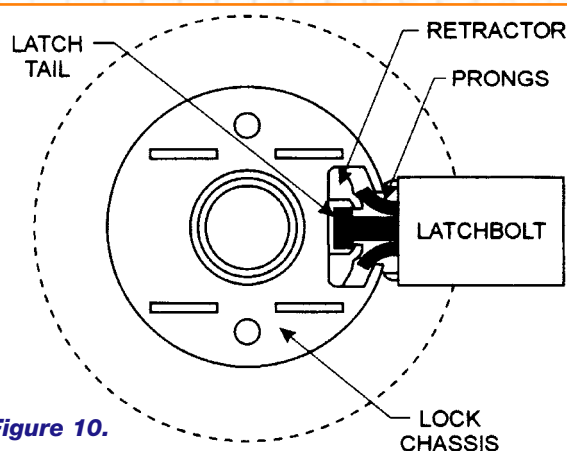


Figure 10.



Install the Cables: (See figure 13.)

Do not remove the shield. This could cause damage to the system card. Ensure that the solenoid cable is routed to the inside of the PEM nuts used for mounting the inside case. The solenoid cable will exit either the left or right hole in the backing plate depending on the latchbolt position.

1. Plug the system cable into the system card.
2. Route the solenoid cable through the cable clip.
3. Plug the solenoid cable into the 2-pin connector on the system card.

Install the Inside Case: (See figure 14.)

1. Slightly wiggle and push the inside case assembly over the lock cylinder assembly, past the lever catch and against the door. Ensure that the solenoid cable is not pinched and is routed through the cable clip.

2. Install the two top long Torx security screws.
3. Install the four bottom short Torx security screws.

A Torx security screwdriver bit can be ordered as part number 404050. A Torx security screwdriver bit is supplied with the optional Drill Guide Jig, part number 404044.

Attach the Inside Lever: (See figure 15.)

1. Push the inside lever onto the lock tube. Slightly

3. From the outside of the door, feed the system cable through the 1" (25.4mm) hole.

4. Insert the chassis assembly into the hole. Be sure that the chassis assembly engages the latch prongs and that the latch tail engages the retractor. (See figure 10.) Ensure that the solenoid cable does not get tangled in the latchbolt mechanism.

Install the Inside Backing Plate/ Electronics Assembly

1. Guide the solenoid cable through the hole in the backing plate. (See figure 11.)

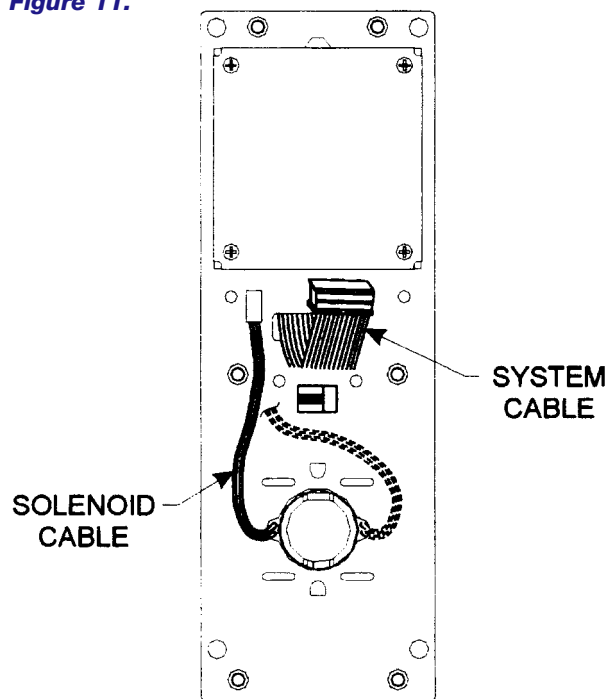
2. Guide the system cable through the rectangular hole in the backing plate.

3. Install the two top 1/4-28 x 2-1/2" Philips round head screws with the appropriate spacers to compensate for door thickness, and with the lockwasher. Do not tighten yet. (See figure 12.) Use the two 7/16" diameter x 1/4" (short spacers) for a 1-3/4" door. Use the 7/16" x 5/8" (long spacers) for a 1-3/8" door. No spacers are required for a 2" door.

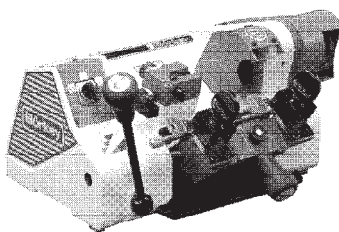
4. Install the two bottom 1/4-28 x 2-1/2" Phillips round head screws with the lockwashers.

5. Tighten all four screws.

Figure 11.



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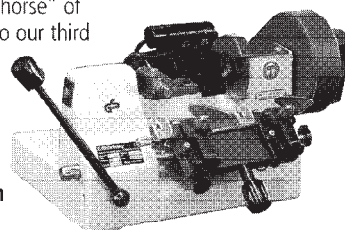
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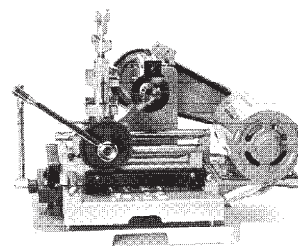
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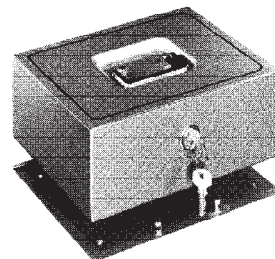
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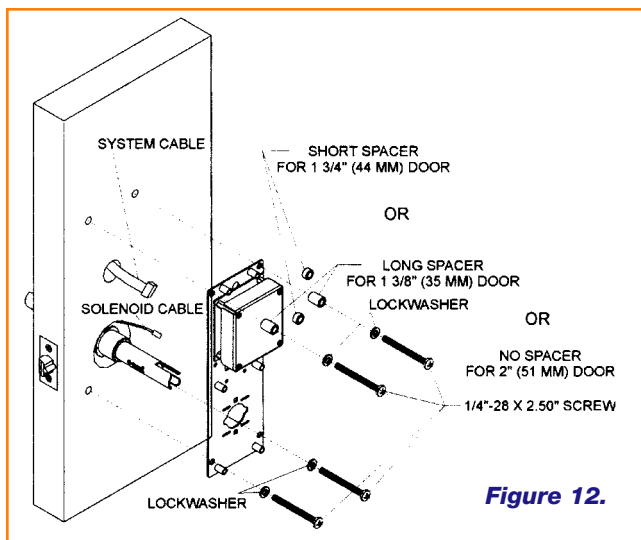


Figure 12.

wiggle and push the inside lever until the lever engages the lever catch.

2. If the door thickness is greater than 1-1/2" the attachment of the inside lever is complete and you can proceed to the "Attach the Outside Lever" section. If the door thickness is 1-1/2" or less, go to step 3.

3. Insert the lever release tool into the lever hole closest to the door. Push in the lever release tool.

4. While pushing in the lever, allow the lever to move to engage the lever catch. This second catch point ensures that the end of the lever is less than 1/2" away from the door as required by many building codes.

Attach the Outside Lever: (See figure 16.)

1. Make sure the cylinder tailpiece is aligned in the same direction as the cylinder bible. Slide the cylinder all the way into the lever.

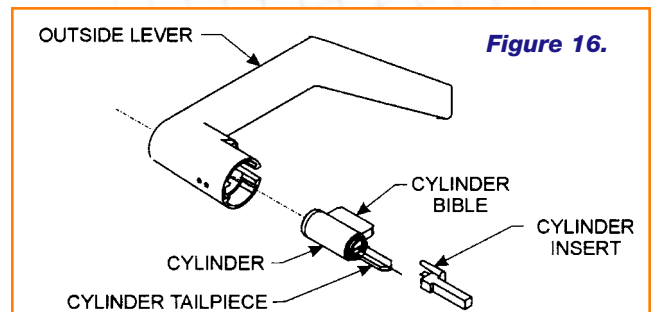
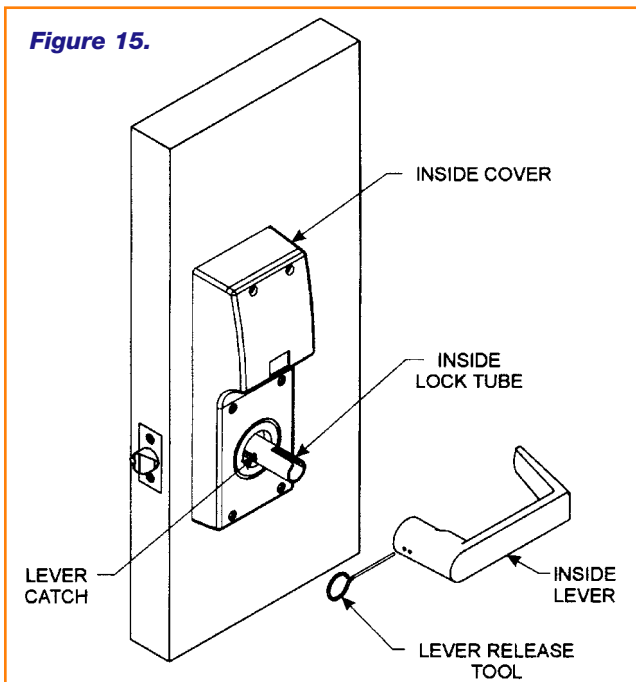
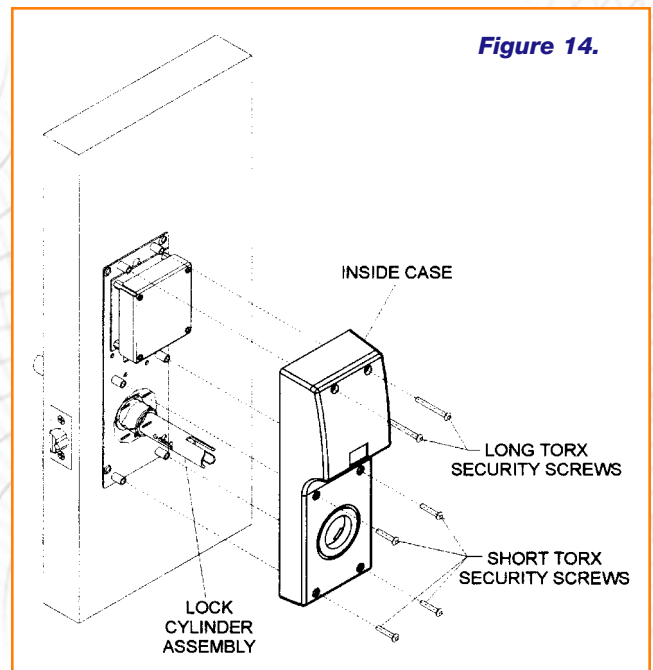
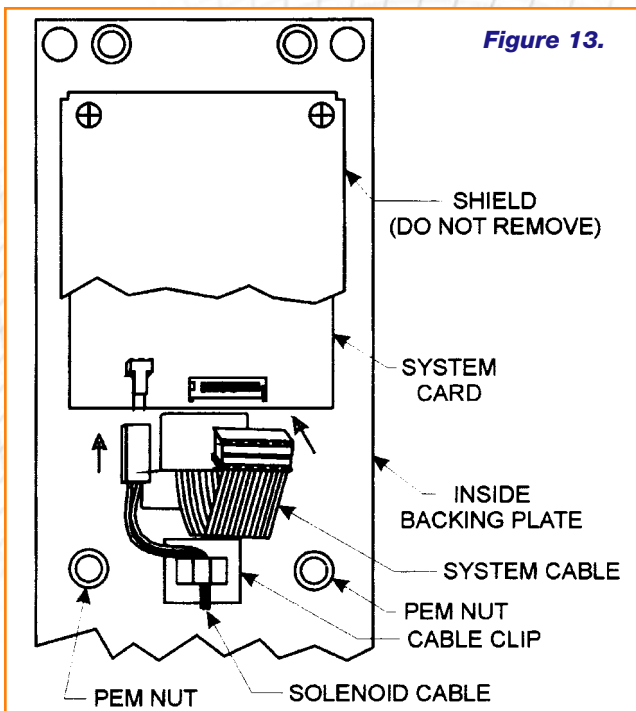
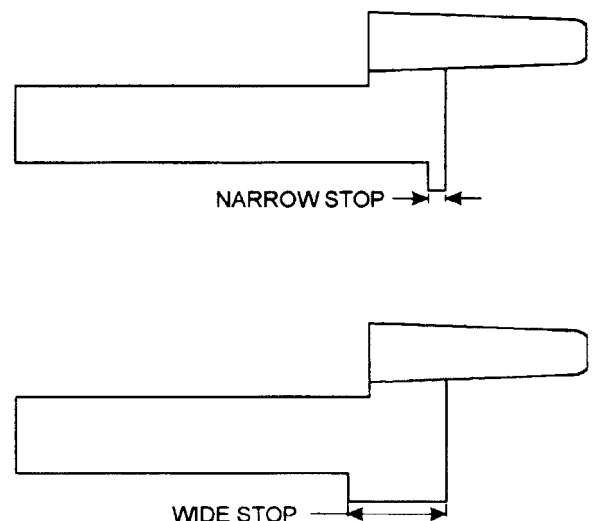


Figure 17. CYLINDER INSERTS



2. Select the appropriate cylinder insert. (See figure 17.) If the door thickness is 1-1/2" or less, use the cylinder insert with the narrow stop. If the door thickness is greater than 1-1/2" use the cylinder insert with the wide stop.

3. Align and position the cylinder insert in the lever shank with the prongs facing toward the cylinder. Press the cylinder insert firmly into the lever shank securing the cylinder.

4. Ensure that the outside lock tube is oriented such that the lever catch is facing the same direction as the latchbolt. (See figure 18.)

5. With the key inserted in the cylinder, slide the outside lever onto the lock tube until the lever stops against the lever catch.

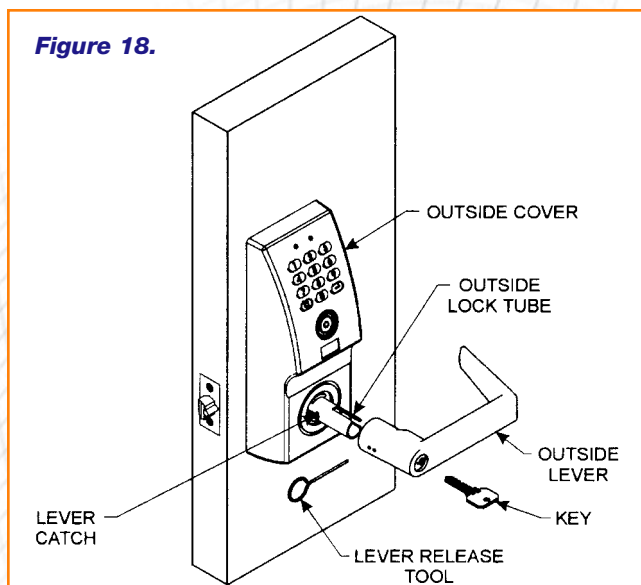
6. Turn the key 45 degrees clockwise.

7. Push the lever until it engages with the lever catch.

8. If the door thickness is greater than 1-1/2" the lever installation is complete. If the door thickness is 1-1/2" or less, complete the following steps.

9. With the key still turned 45 degrees, insert the lever release tool into the lever hole to depress the lever catch.

Figure 18.



10. Push the lever further onto the lock tube until the lever engages the lever catch at the second catch position. This second catch point ensures that the end of the lever is less than 1/2" away from the door as required by many building codes.

Hardware Specifications

- Cover Material: Solid cast zinc
- Handing: Non-handed (For door lock only)
- Door Thickness: 1-3/8" (35 mm) - 2" (51 mm)
- Backset: 2-3/4" (70 mm) (For door lock only)
- Latchbolt: 9/16" (15 mm) throw (For door lock only)
- Strike: 4-7/8" (124 mm) ASA strike standard or 2-3/4" (70 mm) T-strike optional (For door lock only)
- Lever: Solid cast zinc, return to within 1/2" (13 mm) of door face
- Keypad: Epoxy coated metal buttons

Cylinder Options:

- Standard: Conventional key-in-lever solid brass 6-pin with two nickel silver keys.
- Options: Lock prepared for small format interchangeable core (Arrow™, Best®, Falcon™) for 6 or 7-pin cores. (Core not supplied)

Finishes:

- Covers: (1) Black powder coat (2) Satin chrome (US26D)
- Levers: Satin chrome (US26D)
- Warranty: One year limited
- Certifications: ANSI/BHMA A156.3/156.25 (Model 455x) ANSI/BHMA A156.2/156.25 (Model 1550/4550)
- Compliance: 3-hour U.L./U.L.C. Fire Door Rating; ADA
- Master Carton: 3 locks per

Electronic Specifications

- Power Unit: Solenoid
- Power: Self power by depressing outside lever

Total Number of Access Users:

- Model 1550: 20
- Model 4550: 3,000
- Model 455x: 3,000

Total Number of Audit Records:

- Model 1550: NA

T-CODE



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- Model 4550: 23,000
- Model 455x: 23,000
- Resists Radar Emissions: Up to 100 volts/meter

Dimensions for Door Lock

- Outside case: 3-1/2" (89 mm) x 9-1/4" (235 mm) x 2-3/8" (61 mm)
- Inside case: 3-1/2" (89 mm) x 9-3/4" (247 mm) x 1-3/4" (44.5 mm)

Environmental Performance

The lock may be used in both indoor and outdoor applications. Outdoor applications require use of a PowerLever Pro-Gasket™ Kit for maximum performance.

Note: For outdoor applications where the lock is unprotected from freezing rain or rain followed by freezing temperatures, a Pro-Guard™ Weather shield must be installed over the lock to prevent ice from forming between the key buttons and the outside cover.

The lock will perform satisfactorily in the following environmental conditions:

- Temperature: -13 degrees F (-25 degrees C) to +151 degrees F (+66 degrees C)
 - Humidity: 24-hour exposure at 85%, +86 degrees F (+30 degrees C); as defined in UL 2058, Sec. 23
 - Operational Salt Spray: 96 hour exposure; as defined in UL 437, Sec. 12
 - Rain: 1-hour exposure; as defined in UL 2058, Sec. 35
 - Dust: 1-hour exposure; as defined in UL 2058, Sec. 36
- Lock Case

External Device Contact

PowerLever Door Lock models 4550 & 455x include a day contact, with removable wiring harness that can be used to activate an external device (ie: electromagnetic lock, electronic strike, CCTV, video recorder etc.). When a valid combination is entered, the contact is closed, actuating the external device. Max voltage level of 20 volts DC or power dissipation of 0.5 watts.

Exit Device Compatibility

- 455A Von Duprin 98, 99, 98-F, 99-F
- 455B Von Duprin 22, 22-F
- 455C Sargent 8888, 12-8888 / Arrow: SS3801, S3803, F-S3801, F-S3803
- 455D Dorma 9300, F9300
- 455E Precision 1103, FL1103
- 455F Monarch 18-R, F-18-R

Software Implementation Kit

Save, print and manage user and audit data on your desktop or laptop PC. Kit includes PC software, Key Reader, SmartKey™ and Reference Manual. Compatible with Windows 98SE & newer operating systems.

The PowerLever is a complete stand-alone access control system. For more information contact:

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Fax: 336-725-3269
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 - PROX+PROX
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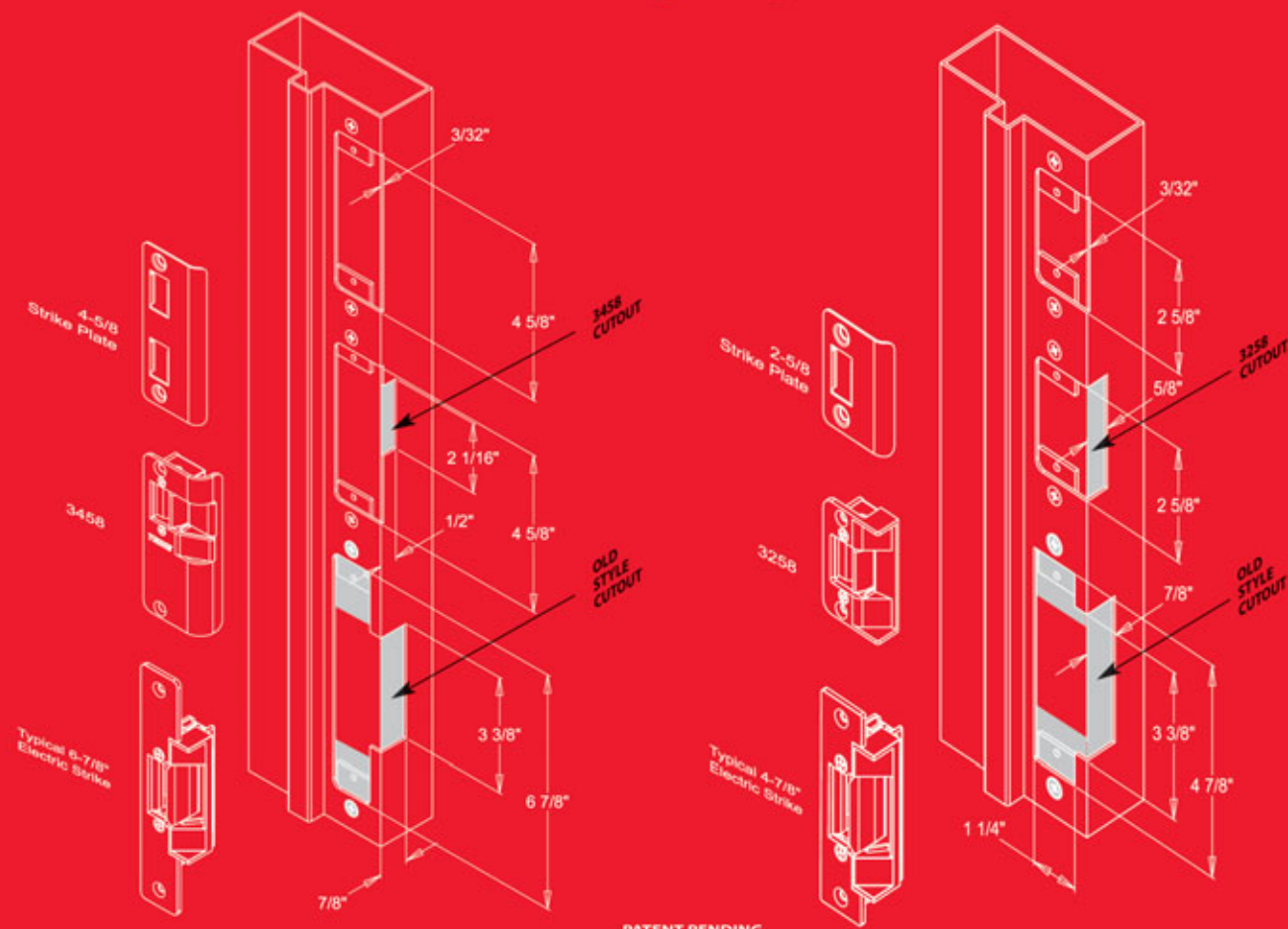
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The 3258 has been created to replace 2-5/8" strike plates in aluminum frames.

Both strikes have only a 1" total backset and ratings of 1200 lbs. holding force and 500,000 life cycles.

Each strike is available in an LC version, allowing 12-24 AC/DC operation plus the additional safeguard of surge and kickback protection.



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AREA OF
RESCUE
ASSISTANCE

**Area of rescue
assistance system**

What is an area of rescue assistance (ARA)? The Americans with Disabilities Act Accessibility Guidelines (ADAAG) defines it as a fire protected area that has direct access to an exit, where people who are unable to use stairs may remain temporarily in safety to await further instructions or assistance during emergency evacuation. ADAAG requires ARAs in new construction and additions to multi-story commercial facilities and public accommodations, unless the building has a supervised automatic sprinkler system.

Typically located in or adjacent to protected stairwells, an ARA must be large enough to accommodate at least two wheelchair users out



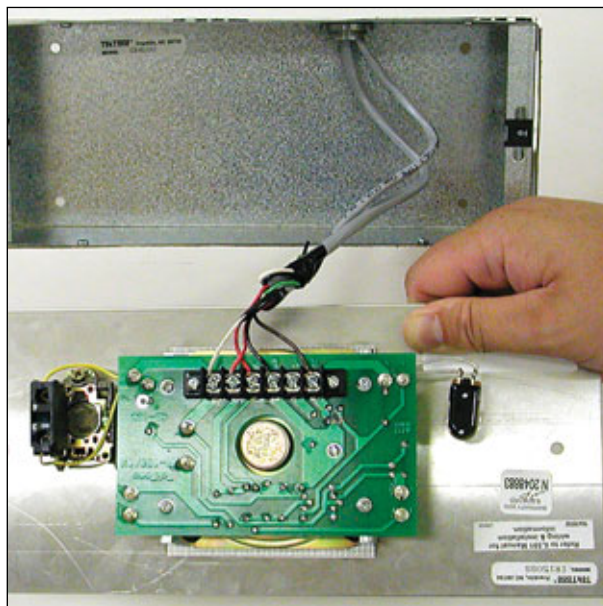
1. Install the OH150 master station housing and master frame.



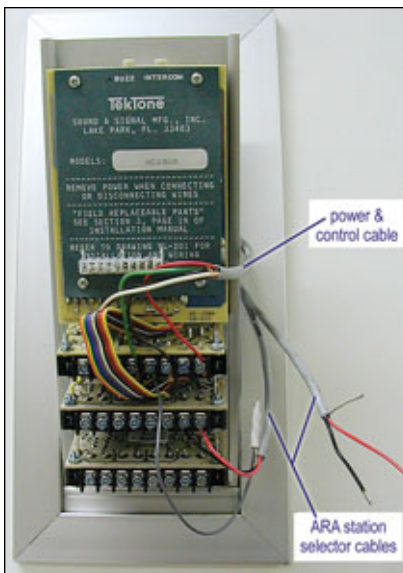
2. Install one OH600 remote call station.



3. The IH151NK includes a transformer and an annunciator power and control unit.

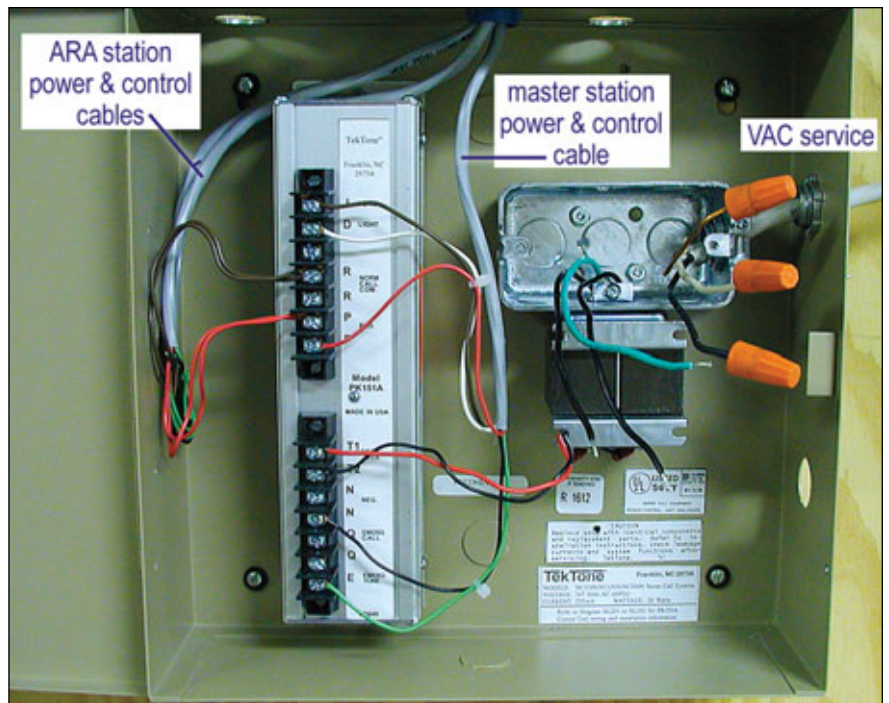


4. Connect all wires at each ARA station.



5. Connect all wires at the master station.

of ARA remote stations-plastic, aluminum or stainless steel-that may be flush or surface mounted to accommodate new or retrofit construction. The new IR150SS stainless steel ARA remote station is both vandal resistant and weather resistant, and may be located under an overhanging roof-in a parking garage stairwell, for example.



6. Connect all wires at the power & control unit.

Directional signs and location signs direct tenants to the ARA, where they will press the ARA remote station call button. A call-placed lamp lights on the ARA remote station, to assure tenants that a call has been placed. The NC150R

lobby master annunciator sounds a pulsing tone and lights a button for each ARA remote station that has placed a call.

Arriving emergency responders use the Tek-SAFE™ system to quick-

Continued on page 32

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7. Install master station.

ly determine how many people need assistance and where they are located. By pressing a couple of buttons on the lobby master annunciator, emergency personnel can converse with tenants in ARAs, reassuring them that help is on the way.

The Tek-SAFE™ ARA communication system is a low voltage system, and installing one is similar to installing a hard-wired intercom system:

- Install the OH150 master station housing and master frame in the building lobby, 66" high and within easy reach of rescue personnel. (See photograph 1.)
- Install one OH600 remote call station housing in each area of rescue assistance (ARA) no more than 48" high on the wall for a forward reach, or 54" high for a side reach. (See photograph 2.)
- Have an electrician run 117 VAC service (40 watts maximum) to the IH151NK junction box location.

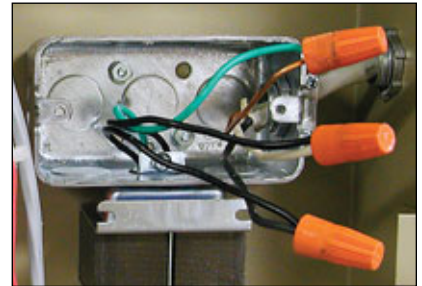
• Mount the IH151NK junction box in a closet or other service area, within 100' of the lobby master station. The IH151NK includes a transformer and an annunciator power and control unit, pre-installed in a junction box. (See photograph 3.)

• Run all cable in wiring conduit, where possible:

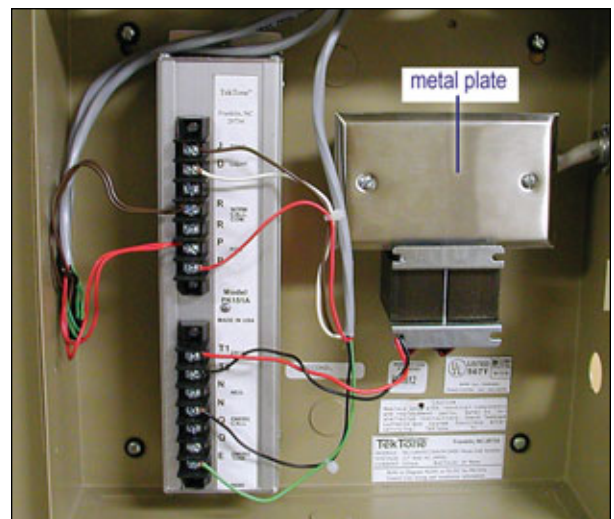
a. Use 4 cond. #18 cable to run power & control risers from the junction box to the ARA stations. (This includes two spare conductors.) ARA stations can be wired either in series or



8. Install ARA station.



9. Connect primary power source to the transformer in the IH151NK junction box.



10. Cover power-wire box with included metal plate.



11. Install users guides.

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home run. Number of risers depends on the building layout and ARA station locations.

b. Use 6 cond. #18 cable to run power & control from the junction box to the lobby master station. Cable run must not exceed 100'.

c. Run 2 cond. #22 twisted shielded cable from each ARA station to a unique selector button at the master station. Use the shield drain wire as the audio common.

- Use an ohmmeter to test wires for shorts or grounds, and find and correct any problems.

- Connect all wires at each ARA station (see photograph 4), the master station (see photograph 5), and the power & control unit (see photograph 6) to the terminals shown in the system installation manual (part number IL591). Recheck all connections as necessary.



12. Install location and direction signs.

- Install master station into housing using scrulox driver and screw to hold in place. (See photograph 7.) Install ARA station into housing using scrulox driver and screws. (See photograph 8.)
- Connect primary power source to the transformer in the IH151NK junction box (see photograph 9) and cover power-wire box with included

metal plate. (See photograph 10.)

- To test the system, press the large red button at an ARA station, and check for lamp indications, call tone and audio communication with the lobby master station. Test each ARA station.

- Install users guides (see photograph 11) and location and direction signs. (See photograph 12.) (Verify sign requirements with local code and fire authorities.)

For more information on the Tek-SAFE™ system, contact TekTone®

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Over the years RCI has consistently tried to maintain a solid line-up of reliable, easy to install products. The newest entry into the RCI door strike line is no exception. Designed from the ground up with the installer in mind, the "all-in-one" 6 Series electric door strikes are very much a joy to sell, stock, and install.

would have to arrange them accordingly for the desired voltage. To help make this wiring easier, the 6 Series strike comes with a multi-pin male connector wired to the power terminals. From the supplied hardware package the installer has only to select the mated female connector that is labeled with the

when it arrives, perhaps weeks later. Using the 6 Series strike completely eliminates the need to source a different strike. Simply turn the field selection screw on the back of the strike 180 degrees and "Voila!" the strike mode has been changed. (See *photograph 2.*) There is no need to dismantle the strike to manipulate

RCI's Latest Triumph

The "all-in-one" 6 Series electric door strikes

by
Kevin Davison

Different installations can require different features and options out of a door strike. To be able to support all of the features that every customer may wish for requires a monumental amount of stock space, both for installers and their distributors. The new 6 Series line is designed to provide virtually all of the features an installer may need for any given situation in as few configurations as possible.

Not sure which voltage is required for that retrofit application? No problem, the 6 Series input voltage is field selectable. Has the customer decided that they prefer their door to be Fail Safe instead of Fail Secure? No problem, the 6 Series comes with a field selectable lock mode. With these features and more there is really no need to fill a service van with shelves worth of makes and models. This strike line does it all.

All-In-One Multi-Voltage Coil:

Knowing well how many times an installer can show up to install a strike without prior knowledge of the power supply that is on site; RCI has accommodated this. The 6 Series strike comes with an all-in-one multi-voltage coil. Due to the nature of this strike coil, different voltages can be used without changing anything. This is generally determined by how the coil gets wired in the field; for example, out of a set of four conductors the installer

appropriate voltage. (See *photograph 1.*) Now, determining how the wiring may need to be arranged has already been dealt with by selecting one of these pre-wired female connectors. This, of course, saves both time and money.

Fail Safe & Fail Secure:

Almost all installers have encountered a customer that changes their mind during the job or sometimes even after the job is completed. Now that the tools are being put away and there is nothing left but the cleanup, someone decides that this door would be much better with a fail safe strike instead of the fail secure that is currently installed in the frame. Generally the only way to deal with this is to order a new strike and return to the job site

anything inside and there is no risk of losing any precious internal parts. One quick turn of the screwdriver is all that is required.

Fail Safe Adjustment:

Rotate the adjustment screw so the dimple is fully rotated opposite the faceplate side of the strike (fully counter-clockwise). The strike is now fail safe and requires power to lock. (See *illustration A.*)

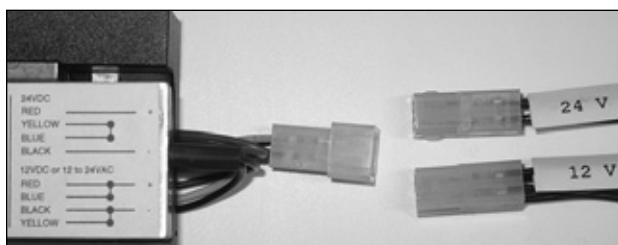
Fail Secure Adjustment:

Rotate the adjustment screw so the dimple is fully rotated to the faceplate side of the strike (fully clockwise). Your strike is now fail locked and requires power to unlock the door. (See *illustration B.*)

Fitting Doorframes With Limited Depth:

Many installation companies do their best to maintain a small level of stock to allow for these sorts of eventualities to prevent the customer from having to wait for parts to arrive. It can be very difficult to predict what may be required and expensive to keep so many different parts on hand. With the 6 Series strikes, one model can handle most situations. There's no longer any reason to try to keep an entire product line stored in a service van. One strike is all you need!

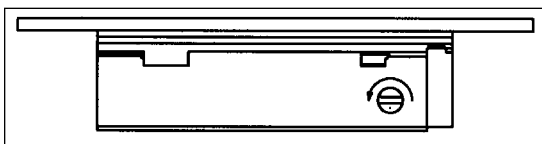
One of the driving forces behind the development of the 6 Series was the ability to fit



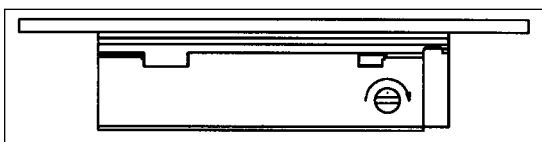
1. Select the mated female connector that is labeled with the appropriate voltage.



2. Turn the field selection screw 180 degrees and the strike mode has been changed.



A. Turn screw fully counter-clockwise for Fail Safe function.



B. Turn screw fully clockwise for Fail Secure function.

the strike into doorframes with limited depth. The goal was to create a full-featured strike with an installed projection depth of 1-1/8". The final product exceeded all expectations! Not only were all of the functions and features packed into one door strike with a 1-3/16" installed depth that accepts a 3/4" latch projection, but all of this was duplicated in an "L" version, Low Profile strike. This model variant works exactly like the Standard "S" version, but does it all in a 1-1/16" deep housing that accommodates a 5/8" latch projection. This smaller size will make this "L" version perfect for

narrow stile aluminum frames with glass side panels and will really reduce the amount of chiseling necessary to fit a strike into a concrete filled frame in a retrofit application.

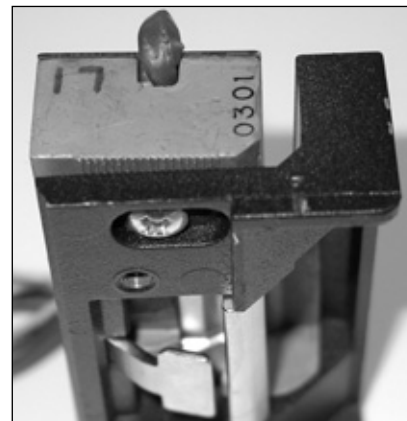
Adjustable Interlocking Lip Bracket:

In yet another feat of engineering, the 6 Series strike line allows an installer to compensate for onsite problems with existing hardware. Both the "L" and "S" strike models ship with an interlocking lip bracket that affords up to 1/4" of horizontal adjustment. This is perfect for accommodating doors that are slightly warped or require heavy weather-stripping. Simply loosen the lip bracket screw a couple of turns — no need to even remove them fully — and slide the lip bracket the required distance to compensate for the problem. (See photograph 3.) The interlocking teeth on both the lip bracket and the insert ensure that they stay in place and this adjustment will not drift over time.

Lip Bracket Adjustment:

If your door or latch is out of adjustment, the insert can be adjusted forward or back as required for proper alignment to the latch. (See illustration C.)

1. Remove the strike from the frame.
2. Remove the faceplate from the strike.
3. 2 screws secure the lip bracket to the main insert.
4. Loosen these screws approximately 1-1/2 to 2 full turns to allow the insert to move forward or



3. An interlocking lip bracket that affords up to 1/4" of horizontal adjustment.

8000 Series



DORMA's 8000 Series Exit Devices

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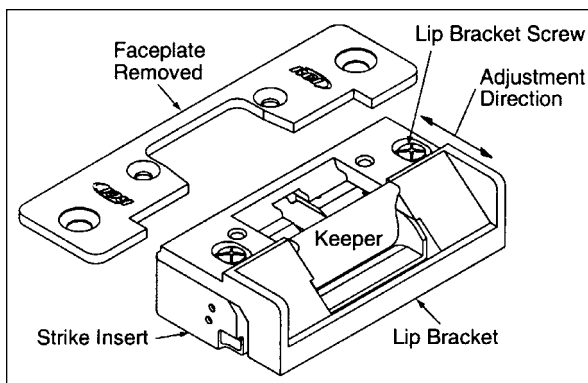
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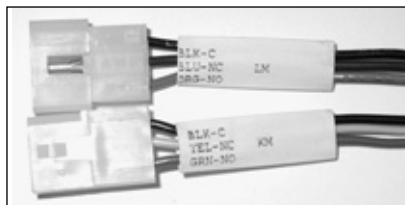
C. Lip bracket adjustment.

backward as required.

5. Once the adjustment is made tighten all the screws and reinstall the strike in the frame.

Latch & Keeper Monitor:

Because an ever-increasing number of RCI customers requested the ability to monitor the latch mechanism in the past, this was an absolute necessity when designing a new product. Not only has a latch monitor been incorporated in both the "L" and "S" versions of the 6 Series strike, but a Keeper Monitor as well. This "LMKM" option can be



4. The LMKM option can be added to either model.

jump on vandalism in commercial and institutional settings.

Not only have all of these features been effectively implemented in one door strike, but each unit is backed

by RCI's warranty and a friendly, helpful support staff who are surprisingly knowledgeable and easy to reach.

RCI Installation Instructions

1. Determine the vertical centerline of the door lock face and the horizontal centerline of the latch.

Important: When determining the horizontal centerline, observe the following:

For Mortise Locks: Align the angled ramps of the lip bracket with the deadlock trigger of the mortise latch.

For Cylindrical Locks: Align the center of the latch with the center of the strike opening.

2. Transfer both the horizontal and vertical centerlines to the doorframe.

3. Prepare the doorframe for cutting as shown in the appropriate drawing.

4. If required, install the optional mounting brackets. (Follow instructions included with the mounting brackets in the hardware pack.)

5. Attach the strike faceplate to the lip bracket with the self-tapping screws provided. (It may be desirable to leave these screws slightly loose to facilitate insertion into the doorframe.)

6. Connect the incoming wiring from the power supply. (See wiring instructions.)

7. Install the door strike in the doorframe using the screws provided.

Wiring Instructions:

Use the appropriate wire harness supplied.

12V for 12VDC & 12-24VAC

24V for 24VDC only

Attach the red wire to (+) positive of the power supply.

Attach the black wire to the (-) negative of the power supply. (See illustration D.)

If using AC power, polarity is not observed.

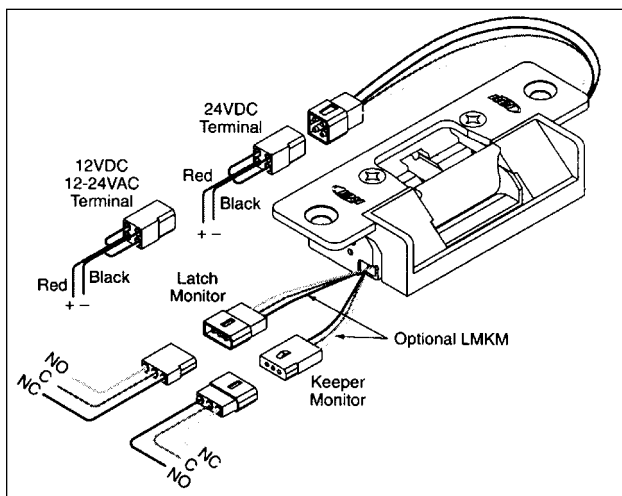
Note: If a suppression diode is required for access control, observe proper polarity.

Latch Monitor Wires

Black = Common (C)

Blue = Normally Close (NC)

Orange = Normally Open (NO)



D. Wiring the 6 Series electric strike.



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Keeper Monitor Wires

Black = Common (C)

Yellow = Normally Closed (NC)

Green = Normally Open (NO)

Note: Contacts are indicated with the keeper in a closed and locked condition, with no latch present.

6 Series Troubleshooting:

Problem:

1. Strike will not lock or unlock properly.

Possible Causes:

A. No power to the insert.

B. Incorrect voltage used.

C. Strike is binding.

Solution:

A. Using a multi-meter, confirm that you have the correct output voltage at the power supply.

Using a multi-meter, confirm that you have the correct input at the strike. Confirm that all connections are tight and secure.

B. Confirm that the insert and power supply are the proper voltage.

C. Confirm that the strike keeper functions when the door is open. If the strike operates correctly, adjust door or strike to eliminate any backpressure.

Confirm that the strike cavity depth is compatible with the lock set.

Problem:

2. Strike releases but won't buzz.

Possible Causes:

Improper power supply.

Solution:

Replace the power supply with a correct voltage AC power supply, and the 12V connector. If this cannot be done, a DC piezo buzzer can be installed.

Problem:

3. Strike makes a buzzing sound.

Possible Causes:

A. Improper power supply.

B. Improper application.

Solution:

A. Replace the power supply with a correct voltage DC power supply.

B. A strike connected to an AC power supply will buzz unless a rectifier is installed.

Problem:

4. Insert has a burnt smell.

Possible Causes:

A. Improper voltage.

B. Improper installation.

Solution:

A. Confirm that you have the correct output voltage at the power supply.

B. Confirm that the correct connector was used when installing the strike 12V for 12VDC & 12-24VACD, 24V for 24VDC only. Confirm that all connections are tight and secure.

Problem:

5. Mortise lock not dead latching.

Possible Causes:

A. Improper installation.

B. Door has sagged.

Solution:

A. Check alignment of dead latch and lip bracket ramp.

B. Adjust door alignment.

Problem:

6. Cylindrical dead latching not working.

Possible Causes:

Improper installation/Door has warped

Solution:

Adjust the strike horizontal adjustment. (See installation instructions).

Problem:

7. Door won't latch.

Possible Causes:

Door has warped or sagged creating excessive backpressure.

Solution:

Re-align door in frame or replace.

Problem:

8. Monitor switch is not functioning.

Possible Causes:

A. Short in wiring.

B. Latch or keeper is not functioning properly.

Solution:

A. Confirm that all connections are tight and secure.

Using a multi-meter confirm continuity of the N/O & N/C sides of the switch.

B. Confirm that the keeper is closing properly and that the lever in the strike cavity is operating freely.

When it comes to reducing capital costs in running a small business, inventory reduction is almost always the first place to start cutting. The new RCI 6 Series can do that in a heartbeat while also providing a solid, reliable product for installation. Lowering stocking costs and reducing service calls at the same time are certainly compelling reasons to give this strike a try.

For more information on RCI contact: Rutherford Controls International Corp., 210 Shearson Crescent, Cambridge, ON Canada N1T 1J6. Phone: (519) 621-7651; Fax: (519) 621-7939; E-Mail: sales@rutherfordcontrols.com; Web: www.rutherfordcontrols.com. Circle 380 on Rapid Reply.

Kevin Davison is Technical Services Coordinator for RCI in Cambridge, Ontario, Canada. In addition to providing technical support for customers, Kevin conducts internal training for RCI staff. Prior to working at RCI, Kevin operated a security company for 10 years, which specialized, in access control and custom home integration.

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Adrian Steel's LOADSRITE Ladder Rack

LOADSRITE Ladder Racks easily raise and lower eliminating the need to climb, stretch or reach for your ladder on top of the van. The unique



design of the LOADSRITE presents the ladder in a diagonal position bringing it to a comfortable working height without blocking side and rear door access.

The low rear bed platform allows you to load or unload ladders one end at a time, instead of lifting the ladder up to hook it into place. LOADSRITE drop down ladder rack is available in single, double, combo and add-on kit models for any full size GM, Ford, or Dodge van. And when installed by an authorized Adrian Steel distributor, LOADSRITE ladder racks are covered under Adrian's 3 years, 36,000-mile warranty.

Aiphone Enhances Multi-Unit Audio/Video Entry Security System

Aiphone Corporation has added a new concierge/security guard station to the GF audio/video entry security system. The concierge station can communicate with all tenants and entrance stations as well as reply to panic call situations.



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*the latest
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When a tenant pushes an emergency switch the panic call turns on at the station and at the concierge station. With this centralized control unit an entire building's security will be enhanced. The concierge audio/video station is desk mountable with an optional desktop stand. A new video expansion module allows the system to accommodate 250 audio/video monitors. The current system is limited to 150 stations.

The GF audio/video entry security system is an ideal access control system, which adds security and convenience to the tenants in an apartment or office building. The GF is flexible, with mix-and-match modules to create the exact system configuration for your needs. The system is perfect for new or retrofit applications.

Architectural Control Systems Inc.

Architectural Control Systems, Inc. (ACSI) Series 1500 Electric Cylindrical Lock Modification is now UL Listed for Request to Exit switching. The ACSI Authorized Egress (AE) modification monitors the activation of the inside trim.

The AE Switch can be used for a wide variety of functions including activation of a door alarm, shunt a door alarm to allow free egress, signal a control console when the inside trim is activated or signal an electromagnetic lock for egress.

The modification is available on Schlage D Series, Corbin Russwin 3400 Series, Sargent 10 Line and Arrow Q Series cylindrical locks.

Barantec Combines Keypad with HID's iClass™ Smart Card

With the success of the Everswitch Prox, Barantec and HID are taking another step forward and launching the Everswitch iClass™, a combination of Barantec's virtually



indestructible metal keypad with HID's 13.56 MHz contactless smart card reader.

For the first time, the security industry can offer end users additional security measures for dual verification with a unit that's built specifically for high traffic areas and harsh environments. Both components are vandal proof and the card reader unit is uniquely built into the keypad as one integrated piece, not simply attached to its perimeter.

The Everswitch iClass is easy to install, vandal proof and impervious to the elements. It is fully immersible and can work under water. The unit is able to withstand user abuse, the harshest environments and temperatures ranging from -4 degrees to 158 degrees F. With a standard Wiegand output, the Everswitch iClass is compatible with almost all access control systems.

Barantec's "Everswitch Inside" logo represents the company's patented piezo technology. The piezoelectric effect is the property exhibited by certain crystals of generating voltage when subjected to pressure and conversely, undergoing mechanical stress when subjected to an electric field. The sensors embedded below the metal surface of the keys are made of a ceramic alloy that only needs pressure to activate. There are no moving parts to wear out and all numbers are hard anodized for years of use without wear.

The Everswitch iClass is perfect for high security traffic areas such as airports and government buildings. And while mechanical keypads often have grime and dirt that infiltrate the unit, the Everswitch iClass is flat, easy to maintain and ideal for hospitals where hygiene is a concern.

Detex's New Extra-Secure Delayed Egress Package

Now Detex puts together superior security and highly reliable life safety with its new electromagnetic delayed egress package.

By packaging our Value Series or Advantex fire and panic exit hardware with a built-in logic board and overhead electromagnetic lock; Detex delivers an extra measure of life safety and security to emergency exit doors.



Detex EM Package Specs:

- Pre-configured with one order number, ready to install.
- Proven, trouble-free easy installation / retrofit.
- Tandem-holding force of a 1500-

pound Mag Lock and a 1400-pound Exit Device.

- 15-second delay allows time for security response.
- 100db audible alarm operates with 24-volt AC power.
- Remote signal capability for system integration and central monitoring.
- Exceptional manufacturer's warranty.

Detex EM, is perfect for doors requiring interior life safety and loss prevention plus highly secure exterior access.

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DynaLock's PAL 1200 Programmable Access Lockset

The PAL 1200 is a 16-position keypad coupled with an ANSI Grade 1 cylindrical lockset. It provides a



sophisticated access control system with the simplicity of standard door hardware. A standalone system, the PAL 1200 fits standard door prep with one additional hole and requires no external wiring.

The access system is programmable through the keypad or by computer interfaced with a hand-held infrared programmer. All components are covered by the DynaLife lifetime warranty.

ILock Products Corp., Introduces Panic Exit Device and Vertical Rod Exit Device

Both series carry UL listing for Panic Hardware and three-hour Fire Rating for door sizes up to 48"x96". They are constructed of heavy gauge metal and slant no-gap design at top and bottom of device to prevent pinching. The two series feature new patented modern design, noise dampening enhancement operation and non-handing installation



complemented by the beauty of investment casting.

The new design and the U shaped railing will offer both safe operation and enhancement to the entrance of your premises. When combined, those features make these series ideal for schools, healthcare and apartment buildings.

Kaba's Millenium, Leader In Access Control

The Millenium system by KABA combines customized software with existing door hardware to form one of the most flexible, easy-to-manage security monitoring systems in campus environments.



Millenium is great for universities or corporations because the system incorporates access readers and products you're already using and strengthens the security by bringing it together in one monitoring system.

The Millenium system allows you to add doors to the system, as you need them—one at a time, eliminating the need to purchase excess capacity. The system accepts multiple reader types: barcode, proximity, biometrics, smart card, and pin reader technologies. User profiles allow system managers to know who is coming and going from a facility. The system provides many campuses with a one-card solution to fit all their needs: access control, dining, parking, point-of-sale solutions, etc.

Millenium is an adaptable option for access control. The system connects with most communication networks available today: leased line, fiber optic, TCP/IP, wireless, etc. Powerful database tools allow the system to import and export data to and from other database systems. Supervised alarms at each access point provide added security throughout your campus. System administrators rely on controllable relays transmitting information about activity at individual access points.

Millenium is the perfect solution for universities or corporations wanting to maintain operations in multiple locations across a campus and satellite locations. The system allows departments, called tenant groups, to control their doors in a facility through a shared network, without compromising the security of the entire system. Millenium also adapts economically to any size facility, from a few doors to many thousand doors.

Colleges and universities nationwide rely on the Millenium system to protect their students while studying, resting, or at play. Corporations, banks, hospitals, and other large institutions are also adopting Millenium as their choice for access control.

Keedex Stainless Steel Door Loop



Keedex, Inc. introduces the new K-DS Stainless Steel Armored Door Loop. The Keedex K-DS has Stainless Steel flexible conduit, Stainless Steel end caps and Stainless Steel mounting screws.

Visit the Keedex web site for more information: www.keedex.com.

Marks USA i-Que Mortise, Stand Alone, Electronic Lockset

Marks USA introduced their new and improved i-Que electronic access control mortise lockset. (IQ2K) The new mortise lock design, with totally self-contained standard 1-1/8" mortise cylinder (1-1/4" with adapter) has all of the programming features of the i-Que as well as ease of installation.



The ability to upgrade the audit trail and users on the door, the unique 16-position keypad, all weather and easy to install design; make the i-Q2K an excellent choice in access control and is backed by a lifetime mechanical and electronic warranty.

New STI Exit Stopper[®], Offers Host Of New Features

The Exit Stopper can be used as both an exit alarm to detect persons leaving through fire exits and now also as an annunciator to let you know someone has entered through the protected door. In its annunciator mode, the device announces door entry with sets of 5 beeps. In its exit alarm mode, the Exit Stopper alarm can be set to sound for 30 seconds, 3 minutes or indefinitely; until it is disarmed with the key (supplied) or there is loss of power.



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*Robert Duff
Around the Clock Lock Shop
South Elgin, IL*

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*William C. Faddis
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There is also a 15-second delay to allow an authorized key holder to exit the door. It can also be programmed for a 15-second re-entry delay, if desired. The user also has a choice of sound intensity for the alarm settings at 100 or 105 dB. The customer can easily make this wide choice of operational modes on site.

SECO-LARM's New SK-910R4 4-Channel Receiver

SECO-LARM introduces its hot new four-channel RF receiver with four independently programmable outputs.

The SK-910R4 is a full-featured four-channel receiver with four



built-in Form-C dry (N.O./N.C./Common) relay outputs with a maximum current rating of 10 Amps at 24VDC. The SK-910R4 requires a working voltage of 11-24VDC/VAC for a wide range of applications.

Use the SK-910R4 four-channel receiver in place of keypads and key locks for wireless RF remote control of alarm control panels, garage doors, house lights or other devices from up to 500 feet away with the incorporated antenna. However, the SK-910R4 also features easy plug-in of SECO-LARM's extended range antenna (Model # SK-91ERSD), to increase the range up to as much as 1200 feet.

The SK-910R4 features Hi-Q selectivity and a coding IC for rejecting unwanted RF signals, higher sensitivity, unsurpassed antenna matching capabilities and greater tuning stability.

The four outputs are independently programmable: timed momentary (1, 2, 3, 4, 5, 10, 30, 60 sec.), toggle (ON/OFF), latched,

and continuous, plus there are four LED's, one per channel, to indicate RF reception, learn mode, transmitter cleared, output type.

The SK-910R4 is capable of learning up to 15 different transmitter codes per channel, and can use all SECO-LARM transmitters, including the 4-button SK-917T4J (code-hopping) and SK-919T4J (fixed-code).

The SK-910R4 is just one of SECO-LARM's wide selection of alarms and accessories for the security and electronics industries.

Secura Key Extreme Keypads

A new line of standalone access control Keypads from Secura Key have been designed for extreme conditions. Utilizing the latest developments in piezo switch technology, these products have no moving parts or buttons that can stick or wear out. Meeting tough IP68 standards for water resistance and a variety of MIL standards, the Secura Key standalone keypads in



solid aluminum housings are virtually indestructible. Up to 200 users can be enrolled right at the keypad with no external controllers or computers.

Secura Key offers a 2x6-button narrow version for mullion installations and a 3x4-button wall switch model. There is also a recessed-mount flush version of the 2 x 6 keypad and an illuminated,

brass finish version of the 3x4 surface-mount model.

Secura Key keypads are backed by one of the most comprehensive warranties in the security industry.

Securitron SABL (Stand Alone Battery Lock)



SABL is a complete single door access control product based on the award winning and popular Securitron DK-26 digital keypad. SABL offers effortless programming and proven quality in a sleek low profile package; and is available in four architectural finishes; brushed chrome standard (US26D), polished brass (US3), polished chrome (US26), and oil rubbed bronze (US10D). SABL is also available with a choice of keyways; SC1, Yale, or prep for the BEST IC-Core.

SABL is perfect for offices, schools, hospitals and much more. It is simple to program and to use, with programming possible from the keypad itself. SABL allows for 55 individual user codes, 2 passage mode codes, and 2 lockout mode codes. Ease of use, combined with the proven Yale 5400LN Series Cylindrical Lockset and its own attractive design make SABL a bold new choice in access control.

Videx Introduces IDPort

Videx announces IDPort, a new access control product designed for a variety of applications including monitoring and restricting access to electric powered doors and gates. IDPort controls who has access, and what specific days and times they have access. Each time an event takes place at the lock, IDPort records the user's ID, location, date, and time. This information is then transferred via an infrared connection to a Palm handheld organizer, and then sent to the PC



using AuditLink access control software.

In addition to a comprehensive audit trail of entries, denied entries, and tamper events, IDPort provides key control by using iButton Touch Keys that cannot be duplicated. Each electronic Touch Key has its own unique ID. A list of authorized user key ID's with each key's individual access privileges is stored in the IDPort. IDPort can be easily retrofitted into new and existing doors and gates that have electric strikes.

TRINE Offers Wireless Entry/Exit Signal Kit



The kit features a 1 note, 2 note or 8 note field selectable melody chime. It is equipped with a wireless battery operated door contact switch, comes with an A-23 battery, and operates in a range up to 100 feet. Volume is adjustable and there can be 128 selectable codes. The receiver plugs into a 120V AC outlet, and transmitter mounting hardware is provided. The unit is UL, CUL, FCC and IC approved.

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The S&G Pulsetronic®

by Michael G. Epperson, VP Marketing

The application of new technology is like a pop quiz. If you don't do your homework and study a bit, you shouldn't expect a good outcome. So it is with the application of S&G's new Pulsetronic® to a safe door that was originally designed for a mechanical or older vintage electronic lock. Even though we've

become accustomed to working with electronic safe locks, this one uses technology new to the genre. The bad news is that the learning curve just ramped up a bit. The good news is that, armed with a few pertinent details, you'll find the Pulsetronic one of the easiest locks to install, program, and operate.

First, the Pulsetronic is not a good fit for all safes, as clearly stated at the beginning of the installation instructions. The keypad communicates with the lock via a series of tapping sounds transmitted through the safe door. (See photograph 1.) There is no physical or electrical connection between keypad and lock. (See photograph 2.) All information is transmitted as audible sound which lock and unlock the lock. (See photograph 3.) For the first time since Uncle Henry accidentally locked himself inside his new gun safe on New Year's Eve while trying to see if the light really went off when the door was closed, the acoustic properties of a safe are a significant issue.

Plate safes tend to be good Pulsetronic retrofit candidates. Dense,

relatively uniform materials transmit sound very well. The only thing to watch out for is a loose piece of metal in the vicinity of the lock mounting area. For instance, a common door design incorporates a shallow "U" shaped bridge on which the lock is mounted. One or more plates of barrier material is slipped

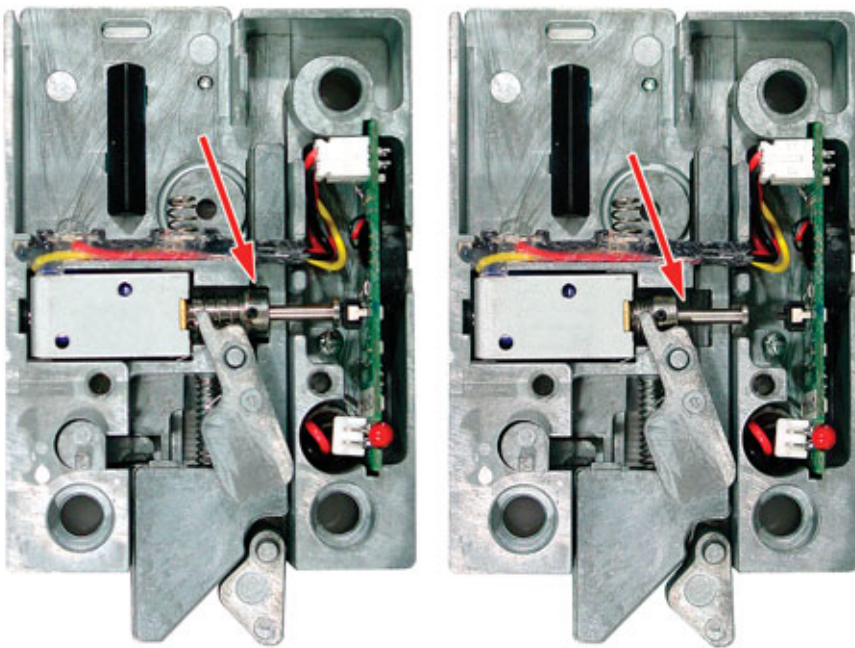
under the bridge to provide drill resistance. It's not at all unusual for one of these plates to be slightly loose. After all, if the fit were really tight, it would be difficult to put it under the bridge. Since sound is comprised of a series of pressure waves, the tapping of the Pulsetronic keypad can set up tiny vibrations in the loose plate, and those vibrations set up echoes that can distort the original audio transmission. The lock precisely measures the length of silence between keypad taps to figure out what it's being told to do. An echo



1. The Pulsetronic keypad.



2. The Pulsetronic lock body.



3. The lock on the left is locked. The solenoid plunger is extended, blocking the lock bolt. The lock on the right is unlocked. The solenoid plunger is retracted, clearing the cutout in the lock bolt casting. Both locks are constructed right-hand.

diminishes the “quiet time” between taps and alters the message. The solution? Simply wedge or shim the loose plate for a tight fit.

Some insulated and composite safes can pose challenges for the Pulsetronic. The basic construction is two metal walls separated by a

mortar-like material that may contain anything from gravel to aluminum oxide nuggets and strands of stainless steel wire. This mix of materials (and therefore densities) can act like a boot camp obstacle course for sound waves. They won’t necessarily come out the same as when they went in.

Sometimes the lock will work flawlessly on an insulated safe as is. Other times, the safe may require a simple modification to create the proper environment for a Pulsetronic. For instance, one safe manufacturer recently converted a residential safe model to one made specifically for the Pulsetronic. It started out as a combination burglary/fire unit secured by a mechanical lock. The initial change was to fabricate the door without the customary spindle hole. It was soon discovered, however, that Pulsetronic operation was inconsistent in this application. The factors contributing to this were door construction (two steel surfaces separated by gypsum board) and a loose piece of drill resistant metal under the lock mounting bridge.

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The first step was to fix the hardplate in place by pinning it with a small setscrew. Lock performance improved, but more needed to be done to allow it to work more consistently. The manufacturing engineers decided that they could make the safe more secure and increase the door's sound transmission capabilities by welding a small steel rod between the spindle hole opening in the existing lock mounting plate and the inside surface of the door's outermost plate. The idea was to provide a rigid, all-steel path between the outside door skin and the plate to which the Pulsetronic would be attached. This consistently dense pathway did the trick, and the safe went into production as the first mass market container designed specifically for the Pulsetronic.

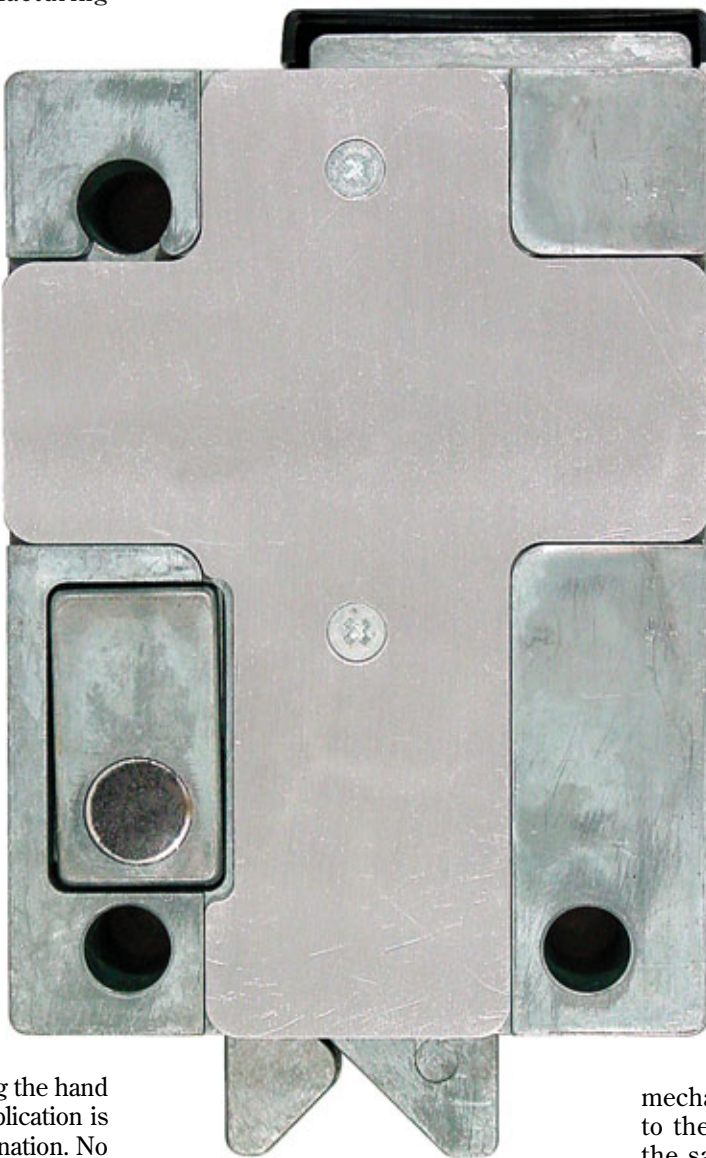
The Pulsetronic is a handed lock. The necessity of placing a microphone against the safe door's lock mounting plate explains why. (See *photograph 4.*) There is only a one-part difference between a left-hand and right-hand model. Otherwise, they're identical. Identifying the hand to order for a particular application is as easy as using your imagination. No matter how your safe door is constructed, imagine you can turn it so the lock is mounted vertical-down (bolt pointing down). If the locking

bar or cam plate that is normally blocked by the lock must pass it from left to right to unlock the safe, you need a left-hand lock. If the safe's blocking bar or cam plate must pass

from right to left, you need a right-hand lock. (See *photograph 5.*)

One more very important installation issue—There is a built-in battery life monitor that needs to be initialized immediately after the lock is volume-adjusted and linked with the keypad. The entire setup consists of three short series of keypad entries that are spelled out explicitly in the printed instructions. The lock's software does all the required work behind the scenes when it receives the information from the keypad.

If you look at the Pulsetronic's features, it quickly becomes apparent that it was meant for the home safe and gun safe market. This is the setting where its simplicity of operation and attention-getting technology makes it easy to sell, especially when the intricacies of mechanical locks and traditional electronic locks intimidate the customer. The LCD readout on the keypad communicates in English, French, German, and Spanish to let the user know exactly what is expected for each step of any available operation. And since the keypad doesn't require a mechanical or electrical connection to the lock, it normally attaches to the safe via built-in magnets. That means you can pull it off and get the best viewing angle for code entry (an important feature for the bifocal set), then stick it back on the safe, hit the



4. The mounting surface of the Pulsetronic sports a transducer (microphone) on a spring-loaded, rectangular plate.

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key, and wait for the lock to open. Short safes or those located in dimly lit areas are good Pulsetronic candidates—no more hunting for a flashlight and struggling to enter a

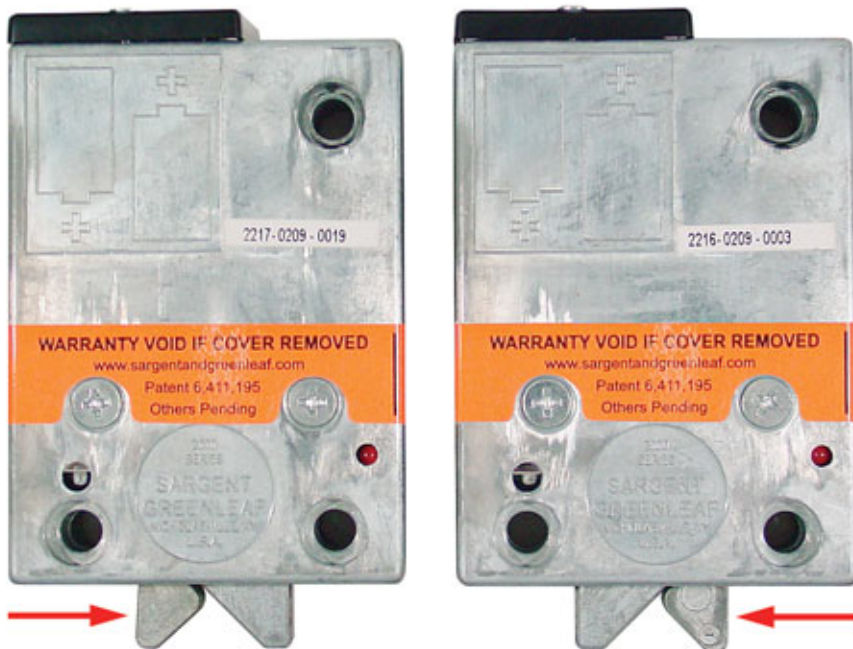
combination while groping around on your knees in a dark closet.

The keypad prompts for the required inputs during operation and programming. When you enter a

code to open the safe, it politely (and persistently) prompts for the correct number of digits, then displays the # symbol to remind you that it too must be entered before the opening can commence. Code changing, a more complex process, becomes very easy because the keypad prompts for every digit you must enter to complete the change.

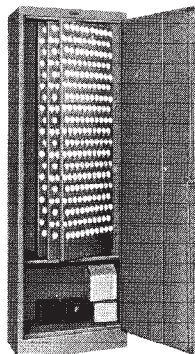
The introduction of new technology to a safe lock raises consumer interest in a product that is usually lackluster at best. This is what we might call the “WOW” factor. It creates opportunities for easy sales because it draws attention to itself simply by being radically different. As with every lock ever made, it’s not for everyone and not for every safe, but it definitely will find a significant niche in our industry.

*Want more information? The Pulsetronic installation and operating instructions are available as Adobe Acrobat® documents on S&G’s website (www.sargentandgreenleaf.com), and the ALOA Video Lending Library has an installation video that’s the next best thing to in-person instruction. Check it out. Circle 382 on Rapid Reply. **INL***

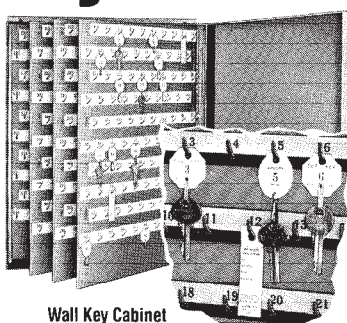


5. That’s a left-hand Pulsetronic on the left and a right-hand model on the right. Handing is determined by the direction in which the safe’s blocking bar or cam plate must move past the lock bolt to unlock the safe.

Visible Key Control



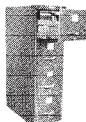
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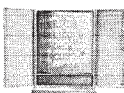


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Commercial Van Interiors

The service vehicle is one of the locksmith's most valuable tools and fortunately there are many packages and accessories available to make the job easier. Setting up your vehicle to work for you takes some consideration, but today's modular equipment designs provide for a customizing of sorts, enabling you to put together a package that suits your needs. (See photograph 1.)

Equipment manufacturers, such as Adrian Steel Company, manufacture modular equipment that can be arranged in a variety of ways, to provide an organized and ergonomic work environment. The equipment manufacturers provide suggested

interiors for various industries, including the locksmith industry. Whether you work from a full size van, mini-van, cube van or pick up truck, there is a package right for you.

What distinguishes the locksmith package from other interiors?

Workbenches are a good start. They can be as small as two feet in length or can span the length of the cargo area or they can wrap around the entire cargo area. (See photograph 2.) This allows ample workspace to cut keys, disassemble and assemble locksets. Literature trays and data files provide storage for literature and various manuals. Drawers offer the

locksmith storage for key blanks, tools and small parts. A stool allows the locksmith a comfortable work setting.

Whether you need on board power, interior or exterior lighting or just a hook or tray to keep something handy, it's all available. Lighting is an important part of the upgrades available because it provides good visibility and a safe work environment. 12-volt florescent lighting provides the best general lighting, is reasonably priced and readily available in a variety of sizes from 1 foot to 4 foot fixtures. Spot and flood work lights can help illuminate areas both inside and outside the vehicle. (See photograph 3.)



1. Interiors can be customized to suite your specific needs.

**2. A custom
workbench
arrangement.**

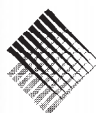


**3. Work lights can
provide ample
lighting inside or
outside the
vehicle.**



4. Drawer and cabinet modules.

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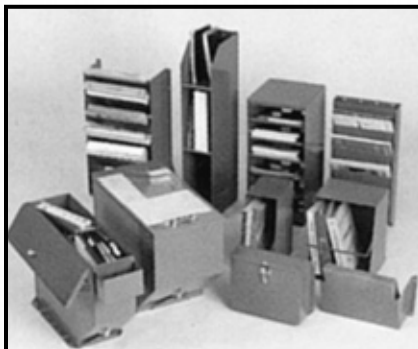
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Modular equipment allows for an arrangement that's best for you. Modular drawer units, cabinets, shelving and bins allow an unlimited variety of arrangements to satisfy almost any requirement or preference. (See photograph 4.)

Paperwork and reference material organizers provide ready access to nearly every kind of reference material you carry. The popular data files feature a clipboard, and a quick



5. Paperwork and reference material organizers.



6. Accessories offer a safe productive working environment.

release mounting system for easy access to the engine housing. (See photograph 5.)

Auxiliary power supplies such as inverters and generators can provide the AC power needed to run key machines, electric tools and lights. (See photograph 6.)

Pre-packaged interior arrangements are available for your convenience. If one of these arrangements does not satisfy your individual requirements, an interior can be custom tailored specifically for you. For full size vans two pre-packaged arrangements are available. The #96101 Full Size Van package features a partition with a walk through door, full length workbench top on driver side or vehicle, 18" and 36" RediBase™ platforms and curb side shelf/cabinet/drawer modules. (See illustration A.) The #96102 Full Size Van package features a full partition, driver data file, RediBench™ with 36" RediBase™ sloped key machine platform and extensive drawer and cabinet modules. (See illustration B.)

For mini vans two pre-packaged arrangements are also available. The #96103 Mini Van package features a partition with walk through door, full length workbench top on driver side of vehicle and a 36" RediBase™ platform and curb side drawer/cabinet module. (See illustration C.)

The #96104 Mini Van package features a partition with walk through door and full "U" shaped wrap-around workbench top over a variety of drawers, cabinets and open shelving. (See illustration D.)

For walk-in and cube vans one pre-packaged arrangement is available.

The #96105 Walk-In and Cube Van package features full-length, standing height workbench tops with two 36" RediBase™ platforms and extensive use of modular drawers, cabinets and shelving. (See illustration E.)

Who is involved with bringing these packages to the locksmith?

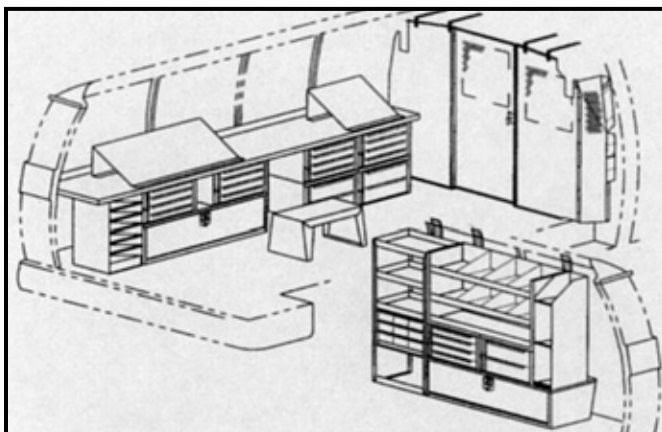
The automotive manufacturers are offering programs to provide work van interiors for various industries, which also include the locksmith industry. The basic programs offer a free service van interior. These basic packages provide a good work environment and at no additional cost, so the price is right.

General Motors offers a locksmith arrangement that is an upgrade of the free van interior package, through its Chevrolet Commercial Customer Choice Program and GMC Fit For Profit. This package is an Adrian Steel General Locksmith Interior and retails for \$2577.00. For 2003 it is available through the program for \$805 cost to the customer. Not a bad deal. The package is designed for the locksmith complete with workbench, large storage cabinets, sloped key machine base and stool. The additional upfit charge can be added to the lease price or incorporated in the purchase price.

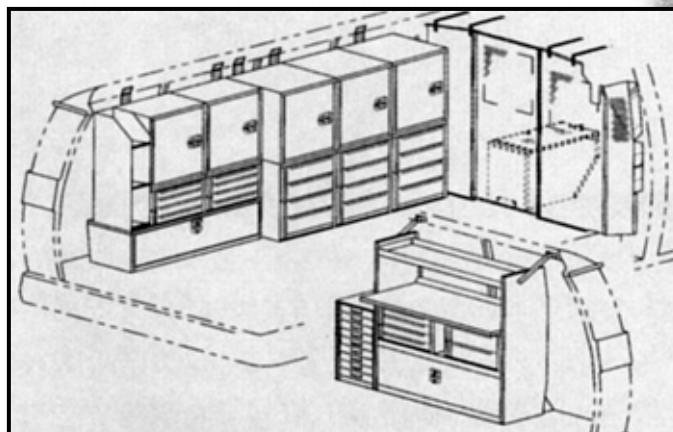
Ford, also offers a program with no charge service interiors. These packages can provide a good starting point for your vehicle work needs. Additional equipment can be added later.

Where can I find out more about equipment available for the locksmiths vehicle?

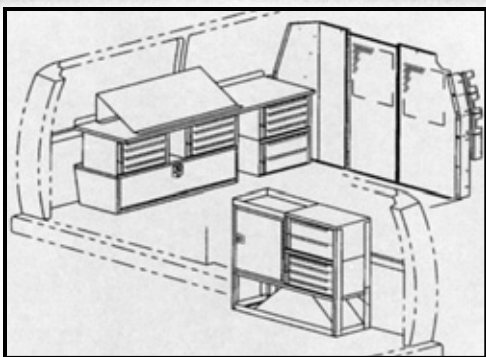
You can see these packages by visiting your local truck equipment



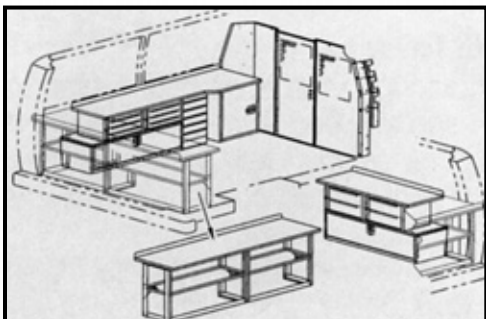
A. Full size van package #96101 features a partition with a walk through door, full length workbench top on driver side or vehicle, 18" and 36" RediBase™ platforms and curb side shelf/cabinet/drawer modules.



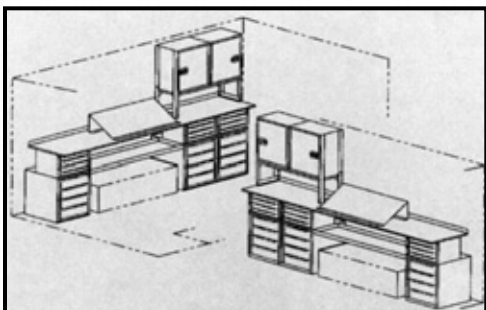
B. Full size van package #96102 features a full partition, driver data file, RediBench™ with 36" RediBase™ sloped key machine platform and extensive drawer and cabinet modules.



C. Mini Van package #96103 features a partition with walk through door, full length workbench top on driver side of vehicle and a 36" RediBase™ platform and curb side drawer/cabinet module.



D. Mini Van package #96104 features a partition with walk through door and full "U" shaped wrap-around workbench top over a variety of drawers, cabinets and open shelving.



E. Walk-In and Cube Van package #96105 features full -length, standing height workbench tops with two 36" RediBase™ platforms and extensive use of modular drawers, cabinets and shelving.

house, tool supply house or light duty vehicle specialist like Commercial Van Interiors. This equipment is also displayed at local, regional and national trade shows such as ALOA. Commercial Van Interiors has specialized in catering to locksmith needs and offers an in depth line of packages. This is enhanced by industry specific literature that is specifically written for the locksmith.

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Its flexibility and durability has allowed the Latch Pull, along with a dead latch for metal stile glass doors, to become a popular replacement for a traditional deadbolt in narrow, medium and wide stile aluminum doors.

• Installation •

Retrofitting a swing bolt with the Latch Pull is a fast and simple operation that requires minimum tools. All necessary mounting bolts, washers, cylinder spacers and retainer rings are included with the device as well as preparation templates for both right handed and left handed operation. (See photograph 1.)

The first step is to remove the existing hardware from the door. First remove the swing bolt faceplate, the lock cylinder and the thumb-turn. (See photograph 2.) Finally, unscrew the mounting bolts, and remove the deadbolt assembly. (See photograph 3.)

Next, install an Adams Rite 4710 Dead latch and faceplate, along with a 4501 Dead latch Strike. (See photograph 4.) This strike features a long faceplate, which was designed to completely cover the strike area of the previously installed swing bolt.

A keyed lock cylinder then needs to be installed on the Latch Pull. Unfastening the four screws from the



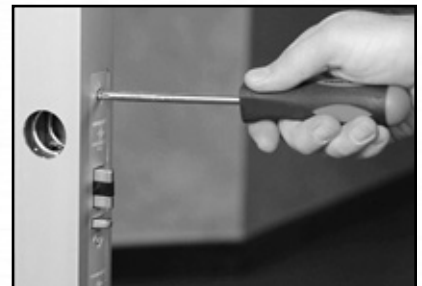
1. All the necessary mounting hardware and templates are included.



2. Remove the existing hardware.



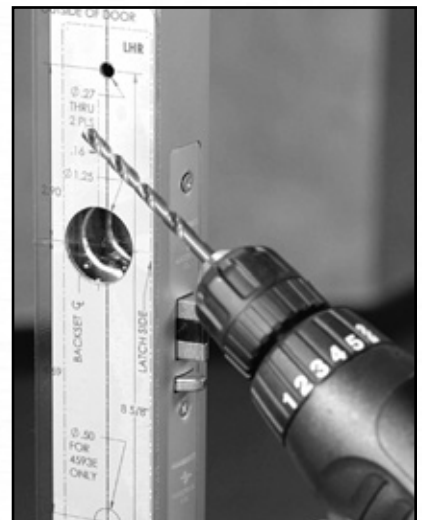
3. Remove the deadbolt assembly.



4. Install an Adams Rite 4710 Dead latch and faceplate.



5. The cylinder and escutcheon fastened with a cylinder retainer.



6. Apply the clear stick-on template and drill the two mounting holes.



7. Align the Latch Pull and lock cylinder.



8. Fasten the provided screws and finishing washers.



9. The completed outside trim installed.



10. The Adams Rite 4591 Dead latch Paddle.

cover plate assembly, and removing it from the housing accomplish this. The cylinder and escutcheon are inserted through the housing and fastened with a cylinder retainer. (See photograph 5.) Replace the cover plate assembly. There is a convenient chart included in the instructions that indicates the correct number of cylinder spacers that apply for each cylinder length. This installation did not require any spacers.

To install the Latch Pull, mark a backset centering line on the door stile above and below the cylinder hole. Apply the clear stick-on template, aligning it with the cylinder hole and backset line, and drill the two mounting holes. (See photograph 6.) The Latch Pull and lock cylinder are aligned against the stile. (See photograph 7.) Once aligned, fastened with the provided screws and finishing washers. (See photograph 8.) The completed outside trim installed. (See photograph 9.)


The final consideration is to choose and install the inside trim. A popular alternative to knobs and levers is the Adams Rite 4591 Dead latch Paddle. (See photograph 10.) This device allows for simple, smooth, one-handed operation much like the Latch Pull.

That's it. Access is now under your control, and the Latch Pull's sleek classic looks and heavy duty construction also allow it to blend in with any architecture and withstand the rigors of heavy, everyday use.

• Operation & Options •

The use of a key unlocks the device. After the handle is pulled once to open the door, the Latch Pull returns to the locked position, automatically denying access to anyone without a key. The Latch Pull can also be used to set the latch into an unlocked, but latched mode, where use of a key is not necessary.

The device is available in 3 painted finishes, has an electrification option either pre-installed or in kit form and is ADA compliant. It is adaptable to use with either 5-pin, 6-pin or 7-pin lock cylinders, and works with Adams Rite 4500, 4700 latches and 8300 & 8400 series exit devices.

For a complete listing of the Latch Pull's finishes, options and availability please contact Adams Rite at (800) 872-3267 or visit their Website at www.adamsrite.com. Circle 363 on Rapid Reply. 



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BY BILLY B. EDWARDS JR., CML

Master Lock Co. has made some changes to their laminated padlocks that are sold through the locksmith. The lock numbers 1, 3, 5, 11, 15, 17, 21, 25, 27, 31 and 81 locks are being upgraded to a new version, but only the version sold in boxes to the commercial locksmith and industrial distributor. If you want the old versions, they will only be available as a retail product once the running change has been accomplished for each model. Three important new features have been added to these locks to eliminate problems some customers may have been having.

First, even though Master padlocks have had plastic bumpers on them for more than 20 years, there are still applications where the top of the padlock body can scratch a painted surface. The new double bumper lock should eliminate that problem. (See photograph 1.)

Second, the advent of the 18v portable drill has changed the difficulty level of drilling a laminated padlock and the second new feature should slow that drilling down again. The bottom plate of the lock has been replaced with one that has an hourglass keyhole. The new bottom plate has also been hardened and the MSRP for these new 1, 3 and 5 locks is only one thin dime more than the retail version without the features.

Third, in the past a destructive method of defeat has been to chisel off the rivet heads, pry the bottom plate off and remove the cylinder to access the bolt. The upgraded commercial version has greatly improved resistance to those who would try to chisel off the rivet heads. They are countersunk into the bottom plate so



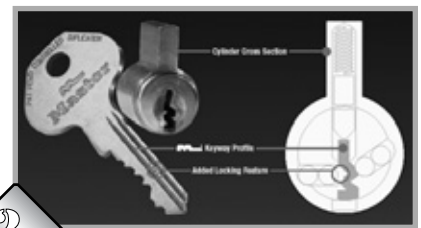
1. The new double bumper lock.

that even if the head is attacked with a chisel, the rivet will hold the bottom plate onto the body.

PADLOCK KEY CONTROL

The same key codes and keying options you have always gotten are still available in these new products as well as a new option that wasn't available before. Patent pending Key Control. Master Lock has a pending utility patent on a new locking mechanism that will only be available to the locksmith and industrial distributor.

Called the ML® system after the profile presented by the end of the new keyway, features in the keyway are associated with the secondary locking mechanism. (See photograph 2.) That association will extend the patent protection to the key blanks as soon as it is issued.



2. Called the ML® system after the profile presented by the end of the new keyway.

A four pin or a six pin cylinder is available and the secondary mechanism basically offers a way to multiply the number of available keys. The secondary locking mechanism consists of $\frac{3}{32}$ " ball bearings that interact with the key in a specific way. Each bitting combination for the secondary mechanism will be used as a virtual keyway and only made available to certain geographic areas. In conjunction with each actual keyway there are 110 virtual keyways. To meet the needs of the marketplace those virtual keyways will be used to accomplish four levels of key control.

LEVEL 1

A single generic virtual keyway known as EL will be available for locksmiths whose customers want the ability to have keys made by any locksmith, but not at places other than a

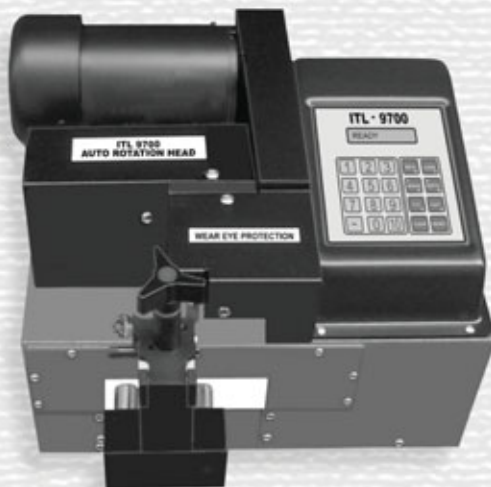
Continued on page 58

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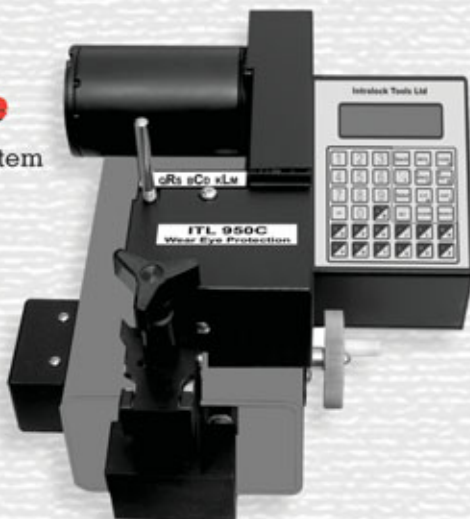
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A selection of virtual keyways available to locksmiths willing to make a contractual commitment regarding key cutting with the distributor and Master Lock. The agreement has the typical requirements for key control programs such as record keeping, not cutting keys for locks sold by others, etc. It is designed for end users who want their

local locksmith to have the ability to provide controlled local service.

LEVEL 3

This level of control is for the institutional end user who actually has a locksmith on-staff. A contractual agreement is required with Master Lock regarding the key control aspects and access to key blanks for the virtual keyway assigned. This level is designed for end users who want key cutting capabilities available in-house only.

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This level of control involves virtual keyways that are factory controlled and

blanks will never be sold. Designed primarily for the end user who doesn't want any local capability for key cutting.

You can see here what the mechanism looks like. (See photograph 3.) Servicing of the cylinder is typically the same as it has always been with two exceptions.



3.

What the mechanism looks like.

1. You need to be careful to not lose ball bearings when you follow the plug out of the shell. The ball bearings are not staked in place.

2. When Master Keying the new cylinders a number one master pin cannot be used. The ball bearing slots in the shell would allow a number one master pin to leave the plug and jam the lock trapping the key.

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4.

Available in the full range of Master Lock commercial padlocks.

For more information contact: Master Lock Company, 2600 N. 32nd Street, Milwaukee, WI 53210. Phone: (414) 444-2800; Fax: (414) 449-3162; Web: www.masterlock.com.



Mr. Edwards is the Key Records Manager for Master Lock Co. and has an extensive locksmith background. He is also the Chairman of the LIST Council and a past recipient of the coveted Philadelphia award. He has taught many factory certified training classes in the past and is now teaching for Master Lock Co. as well, check with your distributor or association for class availability. **TNL**



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ACCESS CONTROL SURVEY PART 1



by
**Richard Allen
Dickey**

A funny thing happened the other day. I was paying for a new central heat and air conditioning unit at Ozark Refrigeration, (the cost of that baby made me laugh, but that's another story) when I overheard one of the service technicians complaining about the front door lock. I mentioned this to the owner, Blaise Koch who was standing nearby. I also reminded him that I was a locksmith and could take care of his problem. He invited me into his office and that is where opportunity presented itself.

The first thing he said was that the front door lock was hard to turn since it was installed by the builder late last year. They had just moved from a small location to a new 4000 square foot facility.

Rather than just jumping at the opportunity of fixing the front door, I started asking question. After a few minutes, we both realized that there were a lot of little problems. This is when I thought about Ingersoll-Rand. Why Ingersoll-Rand?

For those that don't know it, Ingersoll-Rand is a 7 billion dollar company. I used to think of them as just a place to get a good air compressor, but they are so much more. They are kind of like a one stop solution for all of your problems. Some of the companies acquired by Ingersoll-Rand include LCN, Schlage, Locknetics, Von Duprin and Steelcraft as well as many others.

One of the services they provide is a site survey. This is something that I have always done for myself in

the past. I would walk around and write things down as I noticed them. I had often wondered if what I was doing was anything like what the big boys did during their site surveys.

Since there were several problems that needed attention at Ozark Refrigeration, I decided to invite two representatives from Ingersoll-Rand to show me what they do during a site survey.

Mike Quinnett, a territory manager from Oklahoma and Jimmy Klawetter, a territory manager from Arkansas were kind enough to drop by. After a cup of coffee, we headed to the job site to take a look around.

A site survey can be as simple, or as complete as you like. Obviously a good one, will be very complete. Some people worry that too much information can overwhelm a potential customer. However, holding information back can be just as bad. So what do you do?

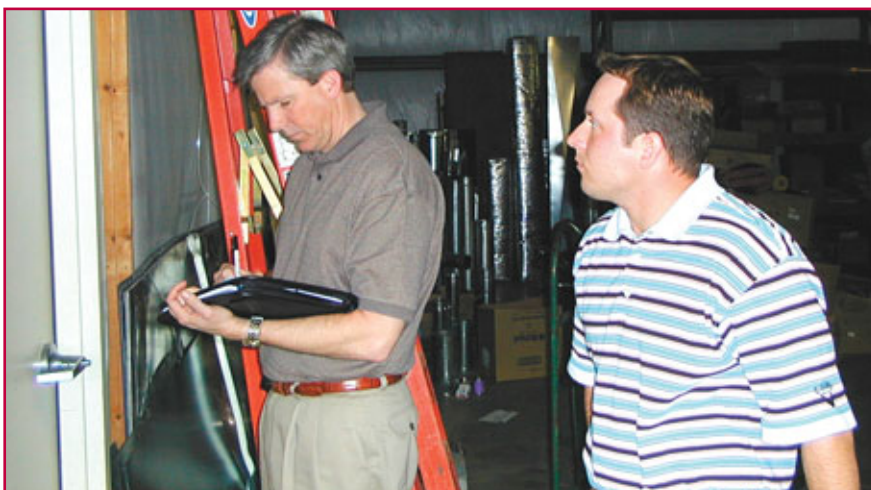
Do a complete site survey and explain which things are critical and which things the customer should just keep an eye on. If the customer wants

the biggest and the best, he will tell you. If all he wants is the one door lock fixed, he will tell you that too.

The important thing is that you present good information and let the customer decide what to do. If he does not go with your recommendations, he will remember your efforts and probably call you back in the future for other work. There is always that chance that what you are suggesting is exactly what he is looking for. This is how a small job can turn into a huge job.

So the big question is, what should a site survey consist of? The first and most important thing is to meet with the customer and listen. In this case, Blaise reminded us of the front door lock and added a few more things.

One of the most important items to him, was the inconvenience of checking all of the doors before leaving for lunch or going home at the end of the day. This one item has already added greatly to the possible job size that started with a simple front door lock problem. See what asking questions can do?



1 Mike Quinnett (left), a territory manager from Oklahoma and Jimmy Klawetter (right), a territory manager from Arkansas beginning the site survey.

After about ten minutes of discussing options, Blaise said he would also like to know when a service technician entered the building and which technician it was. This opened up the area of electronic access control. Another big boost for our list of things to do if we get the job. After listening to the customer's problems, it is time to do a walk through.

Ingersoll Rand has some helpful information on their web site when it comes to performing a site survey. They have a "Do-It-Yourself Site Survey" as well as a "Field Survey(" checklist. It is designed around their "Safe Schools" program, but it can be used on any building you want to survey.

The eight-page manual covers six main topics and explains what to look for under each topic. The six topics are:

- Doors
- Door Closers
- Exit Devices
- Locksets
- Keys
- Electromagnetic Locks

The field survey checklist is set up to help you keep track of door location, door information, lock information and key or core information. The layout they use is a lot better than just scribbling notes on a piece of paper. We started with the easy stuff and left the front door for last.

Since the big guns from Ingersoll Rand were here, I just stood back and watched how they did things. They first looked over the shop doors that gave access to the outside. (*See photograph 1.*)

The first thing to note was the door location and type of door. These doors are of the hollow metal variety with a metal frame. They also checked for door sag, proper closing and proper latching.

Next they looked for a door closer. Normally they would check for proper operation of the closer. However, in this case there was not a closer on either of the shop doors.

The last thing to look at was the type of lockset and its condition as well as the type of key system. All of this information was noted on the field survey checklist.




2 A sample for the customer to see is always a big help.

The front door is the aluminum frame, glass storefront type. It did have a closer, but allowed the door to open to far and contact the wall when fully opened. This would cause door sag in the long run. There was also a lot of potential to improve the way the front door was locked.

A few samples were shown and it was decided that electronic access control is exactly what the doctor ordered for the shop doors as well as the front door. (*See photograph 2.*) So now that we know where and what we are dealing with, it is time to come up with a proposed parts list.

The front door needed the most work and here is what was presented to the owner.

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Front Door Closer:

- 1 ea. 4041SCNS x AL - LCN Door closer
- 1 ea. 4040-18PA x AL - LCN Drop plate
- 1 ea. 4040-61 x AL - LCN Blade stop spacer
- 1 ea. 4040-30 x AL - LCN Cush shoe support

Electromagnetic Lock:

- 1 ea. 390+ x DSM/MBS-L1 - Locknetics Magnetic lock
- 1 ea. 3904F 1 1/4 x 1/2 - Locknetics Filler bar

Exit Hardware:

- 1 ea. 692 x 36 x 628 x BRG - Locknetics Smart Bar
- 1 ea. 621DA x RD EX - Locknetics Push button

Electronic Access Control:

- 1 ea. PX95 HID Locknetics Prox Reader
- 1 ea. KP78+ - Locknetics Keypad
- 1 ea. CT1000PS Locknetics Controller
- 1 ea. 505 - Locknetics Power supply
- 1 ea. SBP2 - Locknetics Batteries

- 1 ea. EPT 10 x SP28 - Von Duprin Power transfer

The shop doors also needed several improvements.

Service Door Closer:

- 2 ea. 4041SCNS x AL x TBSRT - LCN Door closer
- 2 ea. 4040-30 x AL - LCN Cush shoe support

Service Door Lockset:

- 2 ea. CM5196PXK BP x KD - Schlage/Locknetics Lockset

Door Position Solution:

- 2 ea. 7766 - Locknetics Door position switches
- 2 ea. 4570-T1 - Von Duprin Latch Monitor switches
- 2 ea. 800L2-RG Locknetics monitor lights

Accessories:

- 1 ea. EXCIP+ x USP Locknetics Pocket PC
- 12 ea. PRX1 - Locknetics Prox cards
- 12 ea. PF1 - Locknetics Prox key fobs
- 12 ea. IBF - Locknetics iButton on fobs

The owner was very happy and wanted the whole ball of wax. (See photograph 3.) Over the next several



3 Blaise Koch (left) is a very happy customer when presented with the possible solutions for his problems.

months I will go over the installation and operation of each product that is in the above list. We will be dealing with Locknetics, Von Duprin, LCN and Schlage, all of which are a part of Ingersoll-Rand.

See you next month.

*For more information on any of the above products, you can contact Ingersoll-Rand at IR Security & Safety, 111 Congressional Blvd., Suite 200 Carmel, IN 46032 or call them at 317-613-8150. They also have a web site at www.irsecurityandsafety.com. Circle 381 on Rapid Reply. **TRIL***

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Volume 1 covers...

Key information • Progression Charts • **BMW** 1997 R1100R • **Harley-Davidson** 1938 Knucklehead, 1970 Sportster, 1980 Sportster, 1984 Wide Glide, 1994+ Tubular Ignition Lock • **Honda** 1968 Mini Trail 50, 1970 Trail 90, 1971 CB750, 1978 CB750, 1978 Hawk, 1981 CB900, 1982 Ascot, 1983 Shadow, 1984 Nighthawk, 1985 Rebel, 1990 Gold Wing, 1996 Nighthawk 750, 1996 VFR750 • **Kawasaki** 1980 LTD250, 1985 Ninja 600, 1993 KLX650 Ignition Lock, 1994 Ninja Gas Cap • **Neiman** Steering Lock • **Suzuki** 1986 Intruder, 1990 Katana 600, 1991 GSXR1100 Ignition Lock, 1998 Katana 600, 1999 TL1000R • **Triumph** 1995 Tiger, 1999 Legend • **Yamaha** 1980 650 Twin, 1987 FZR1000 Ignition Lock, 1987 Virago, 1992 Yamaha/Polaris 4-Wheeler Ignition Lock, 1998 V Star Classic, 1998 YZF600R

Volume 2 covers...

Key information • Progression Charts • **BMW** 1976 R90/6, 1989 K100RS, 1995+ Ignition Lock, 1999 F650, Luggage using Y61 • **Buell** 2000 Blast • **Ducati** 1993 Monster • **Harley-Davidson** 1999 Road King Police, 1999 Sportster • **Honda** 1975 CB550 Ignition Lock, 1980 CB400 Ignition Lock, 1983 CB650 Ignition Lock, 1985 Aero Ignition Lock, 1995 Gold Wing Luggage, 1987 250X 4-Wheeler, 1990 NS50, 1992 Shadow, 1994 CB250, 1997 Shadow, 1998 CBR1100XX, 1999 CBR600F4, 1999 CBRX1100XX, 1999 Shadow, 2000 CBR600F4, LIPO 5-cut Ignition Lock, LIPO 8-cut Ignition Lock, • **Kawasaki** 7-cut Code Information, 1980 LTD250 Ignition Lock, 1983 GPZ Ignition Lock, 1986 ZX600R Gas Cap, 1986 ZX600R Ignition Lock, 1987 EX500 Ignition Lock, 1989 EX500, 1991 ZX-6, New Blank • **Suzuki** 1968 T500, 1981 GS550 Ignition Lock, 1986 GSXR750RG Gas Cap, SM-2 Ignition Lock, SM-4 Ignition Lock • **Triumph** 1970 Bonneville, 1973 Tiger, • **Yamaha** 1980 XS650, 1982 Seca 400, 1982 XV920 Ignition Lock, 1984 FJ600, 1986 FJ1200 Gas Cap, 1989 Riva Jog Ignition Lock, 1990 XT350, 1993 Seca II, 1996 Royal Star, Cruiser Ignition Lock • **Zadi** Q637 Ignition Lock, Q933 Ignition Lock

Volume 3 covers...

Key information • Progression Charts • **BMW** 1999 R1100GS, Luggage using X59 • **Honda** 1975 CB500T Ignition Lock, 1980 CB750 Custom Ignition Lock, 1980 CM400T, 1983 CB450 Nighthawk Ignition Lock, 1985 Big Red, 1987 Elite 250, 1987 Elite 250, 1997 CBR600F3, 1999 Shadow ACE Deluxe, 2001 CBR1100XX, 2001 Gold Wing, 2001 XR100, 2002 VTX1800, Cruiser Ignition Lock • **Kawasaki** 1979+ Ignition Lock, 1982 KZ1000 Ignition Lock, 1986 ZL600 Ignition Lock, 1992 ZX6 Seat Lock, 1995 KLR250 Ignition Lock, 1998 ZX9R Ninja, 2000 Concours, 2001 250R Ninja, 2001 500R Ninja, 2001 KLR650, 2001 ZX12R Ninja, KM-5 Ignition Lock • **Moto Guzzi** 1979 V 50 II • **Suzuki** 1979 GS750 Ignition Lock, 1985 Ignition Lock, 1986 GSXR750, 1990 GSXR750, 1997 DR650, 1999 Savage, 2001 GSXR750, SM-5 Ignition Lock • **Yamaha** 1972 Enduro 100, 1977 Enduro 400, 1978 XS750 Triple, 1982 XZ550 Vision Ignition Lock, 1984 QT, 1989 V Max, 1992 TW200 Ignition Lock, 2002 BearTracker



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Beginner's Corner



Basic Automotive Series, Part 1

By Ken Holmlund

One facet of locksmith work that many shops choose not to enter is that of automotive work. I don't know if it is because they don't want the extra investment in tools and inventory, or they feel the work is too time consuming. Some may even feel that it is not profitable enough. I have found the field to be very interesting and often challenging, but never unprofitable and certainly not boring.

Keeping up with the rapidly changing field can be expensive, as well as fascinating. It seems that about every day or so a new invention comes on the market to complicate the work we do with autos, and it does not seem to be slowing down even a little. If you choose to include automotive work in your business plan, make sure you include time to keep up with the changes as a regular part of the job. Failure to keep up will doom your mission. Like the saying says, "A business with no sign is a sign with no business, and an automotive locksmith with no updating is a locksmith with no business!"

Possibly one of the reasons for not getting into the automotive part of locksmithing may be the investment in tools. To do the basic work on cars, you will not need a great deal of investment. I will cover some of the tools I have found useful in this article and then follow up with more tools in the next. I am purposely not going to include car-opening tools here because that is a whole series by itself. Suffice it to say you will need them as soon as you open your doors for business. No pun intended. This will also not include every tool, product manufacturer or circumstance that can and will be encountered. This will be an overview to give you a general idea of what will be needed and encountered doing automotive service, and some of the manufacturers supplying such products.

Probably one of the most common calls you will get will be to make an ignition key for a domestic vehicle. You will need a range of tools here, but they are not the most expensive tools in your box. I will start with GM vehicles.



1. An older Saginaw column and ignition.

Older GM models with Saginaw columns will require the removal of the horn pad and wheel to access the ignition. (See photograph 1.) To remove the horn pad you will need a Phillips screwdriver or a set of small sockets, 1/4" drive will do nicely. This will expose the insulating ring, mounting screws and Bear head steering shaft nut retaining ring. (See photograph 2.)



2. The insulating ring and mounting screws exposed.

Next remove the steering shaft nut retaining ring with Truarc ring spreaders. (See photograph 3.) Then remove the insulating ring, mounting screws and steering shaft nut. This will take you down to the steering wheel base plate. (See photograph 4.)



3. Remove steering shaft nut retaining ring.

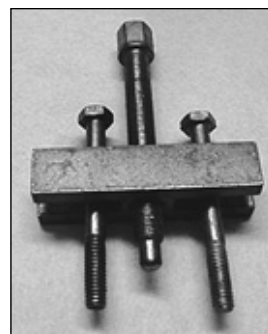
You will now need a way to pull the steering wheel. The easiest way



4. Remove the insulating ring, mounting screws and steering shaft nut.

to accomplish that is with a steering wheel puller. (See photograph 5.)

GM uses, for the most part, domestic screw threaded bolts are included with the puller, but you will want to have foreign threaded bolts as well. On some of the sports cars it will require a longer bolt to pull the wheel. Have a 6-inch set available just in case. It seems that if you don't have them they will be needed.



5. A steering wheel puller.

Rytan makes a universal steering wheel puller, model RY23. BWD model LT9902 is also available. Sieveking Products makes the E-Z Puller for quick removal of the steering wheel as well. Check with your supplier for availability.

Attach the puller and remove the wheel. (See photograph 6.)



6. Attach the puller and remove the wheel.

I have been successful about 75% of the time pulling the wheel without using a puller. I loosen the wheel nut, but don't completely remove it. Trust me, it saves getting knocked in the head by a flying steering wheel. I then place my legs under the wheel and jockey it back and forth. It works and is a time saving tool when it does.



7. The steering wheel lock plate.

This will expose the steering wheel lock plate and plastic cap, which is next to be removed. (See photograph 7.) To accomplish that, a



8. A steering wheel lock plate compressor.

steering wheel lock plate compression kit, similar to the HPC model SWLPC-1 is required. (See photograph 8.) The Keedex K10 is a fine compressor as well that includes the necessary parts to work

on AMC, Chrysler and GM. The BWD model LT9903 is another tool for this job.

I have heard of people bragging that they can take the lock plate off with their thumbs, but I have not actually seen anyone do it. Believe me, the compression spring is quite stout. My feeling about this is, why take the chance of hurting yourself when the tool is available that can do the job and does it well. Get the tool.

I like to remove the black plastic cap, which is over the steering wheel lock plate before compressing the

plate, but is not necessary. (See photograph 9.) The wheel lock plate can be compressed with the cap on.



9. Remove the black plastic cap.

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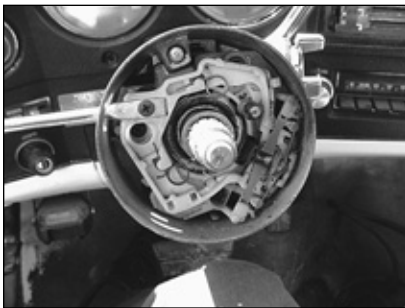
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10. The steering wheel lock plate compression tool in place.

With the steering wheel lock plate compression tool in place, compress the wheel lock plate and pry the snap ring up the shaft to remove. (See *photograph 10.*) This will expose the turn signal switch assembly next to be removed. (See *photograph 11.*) To remove the turn



11. The turn signal switch assembly.

signal switch assembly, remove the hazard signal from outside the column, the turn signal arm and the three retaining screws. Once removed the turn signal switch assembly can be pulled over the steering wheel shaft. (See *photograph 12.*) It is attached to wires so pull it gently and just let it hang out of the way. When you have removed the screws from the electrical turn switch collar and pulled it out of the way, you are one step from getting the cylinder out of the column.



12. Remove the turn signal switch assembly.

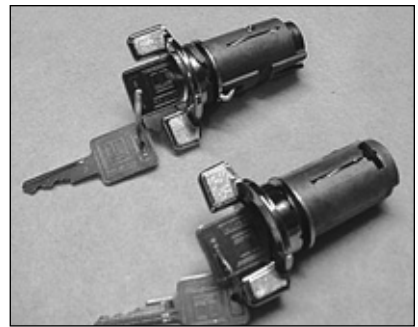
If the vehicle is older than 1979, the lock is held in with a spring-loaded retainer. (See *photograph 13.*)



13. The lock is held in with a spring-loaded retainer.

It may be hidden under a thin membrane of aluminum and you will need a small blade screwdriver or a small punch to open the membrane. After 1979, the lock cylinder is held in place by a thru bolt that goes through the side of the cylinder. Both the spring loaded and thru bolt styles of ignition locks can be seen in *photograph 14.* It is usually held in place by a Phillips screw, a torx screw or a small-headed bolt. You will need a set of torx drivers to do the job on occasion.

Now that you have removed the cylinder from the column, you will need to make a key from code. The code is usually stamped or etched on the original equipment cylinders, but



14. The spring loaded and thru bolt styles of ignition locks.

will not be found if the cylinder is a replacement. I carry new cylinders in both styles because my time is worth more to me than what it would involve to take the lock apart and make a key from scratch. If it doesn't have a code, I replace it. The only exception is when the door and ignition are the same key. That rarely happens with GM vehicles of the age we are discussing here.

ASP, Strattec and BWD, all make replacement cylinders and you should carry both styles in your truck. I also suggest carrying both coded and uncoded versions of both ignition cylinders. Again, these parts are available from your local parts supplier.

If the code stamped on the lock is available, how will you make the key? This gets a little pricey if you do not have a code machine. I suggest



15. The Curtis number 15 Clipper.

using either the Curtis number 15 Clipper, (see *photograph 15,*) or the Pak-A-Punch by A-1. The Pak-A-Punch is available from your supplier and the

Quality Companies offering Quality Products.



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Curtis Clipper can be purchased from Curtis. The contact information for Curtis is included at the end of this article. The investment for either of these tools can add up quickly, so get what you need, but need what you get.

GM ignitions became a lot more complicated around 1986 when they began incorporating the sector gear into the lock cylinder. If you have any questions about which one to buy, ask your local supplier which he sells the most of and buy accordingly. They can be of major assistance when buying decisions are needed.

Here are some *approximate* prices you can expect to pay for some of the tools needed.

A-1 Pak-A-Punch Key Cutter
\$300.00

BWD LT9903 Lock Plate Tool
\$25.00

BWD LT9902 Steering Wheel Puller
\$12.00

BWD SK6035 GM Pinning Kit
\$71.00

Curtis Clipper 15 Key Cutter
\$300

HPC SWLPC-1 Steering Wheel Puller
\$65.00

Keedex K10 Compressor
\$10.00

Rytan RY23 Steering Wheel Puller
\$75.00

Rytan RY29 Telescopic Wheel Puller
\$55.00

Sieveling E-Z Puller Steering Wheel Puller
\$27.00

Most of the tools covered in this article are available from your supplier, but in case you want to contact the manufacturer, here is the contact info for the manufacturers covered in this section.

A-1 Security Mfg. Corp.
Phone: 804-359-9003 or 877-725-2121
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Website: www.demanda1.com

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The Lighter Side

Tell It Again, Sam



by Sara Probasco

“My neighbors have gotten so ornery, I’m afraid to leave my back door unlocked any more, even when I’m at home,” Sam Grayson prattled on, while Don duplicated keys for the newly installed deadbolt. A pleasant man in his eighties, there were certain aspects of his conversations you could count on. “It’s absolutely disgraceful the way people act nowadays. Why, I can remember the time when...” Then he’d launch into an all too familiar spiel about the good-old-days of his youth.

When Mr. Sam—as we lovingly call him among ourselves—paused to take a breath, Don seized the opportunity to get a word in edgewise.

“Here you go,” he said, handing Mr. Sam the keys. “That new deadbolt we installed in your back door ought to tighten your security a bit. Now you just call us if we can do anything else for you, you hear?”

“Eh? What’s that you say?” Mr. Sam cupped his hand around his ear to hear better.

“Thanks for the business,” Don shouted. Then, with a wave and a smile, he returned to his work.

Later that morning, Don answered the phone and began shouting, “Your housekeeper called about that just a few minutes ago and said she’d have to check with you on the price.” He paused to listen. “Well, as I told Isabella, I can send somebody out right now to make you a set of keys. Is that what you want me to do?” Another pause. “The price I gave her is for making a brand new set of keys, from scratch.... No, that’s the price if you already have a set of keys and we can copy them to make you a second set.... I understand that, Mr. Grayson.” His shouting was growing louder. “Just tell me.... Well, do you want us to come, or not?”

“What in the world was that about?” I asked when he finally hung up the phone. I’ve learned through the years, that when Don becomes agitated, his volume control goes haywire, so I figured he was really upset this time.

“Oh, Mr. Sam lost the keys to his pick-up,” he replied in a pleasant manner. “His housekeeper, Isabella, called a few minutes ago for a price. Then she had him call back to talk to me personally, because she wasn’t sure I understood what was needed, and she wasn’t sure she understood about the price.”

“You don’t sound upset any more,” I said.

“I wasn’t upset.”

“Then what was all the shouting about?”

Don looked surprised. Then he smiled.

“The man’s deaf as a post, and his housekeeper doesn’t speak or understand much English, so trying to communicate with either one can be a real challenge.”

The phone rang, and one of the guys answered it, then called out, “Hey, Don, it’s for you.”

It was Isabella again, calling to see if Mr. Sam had talked to Don.

“Si, gracias,” Don said in what little Tex-Mex he could muster. He listened for a moment, then shouted, “Isabella, listen. The problem is, I’m still not sure if he wants us to come, or not, ¿comprenda?” Another moment passed and he shouted something about “su casa,” and cradled the phone, shaking his head.

“You know, increasing your volume may be all right when you’re trying to communicate with somebody who’s hard of hearing, but it doesn’t help if it’s a language problem,” I said.

“I know, I know,” he admitted. “I guess I’m feeling a bit ‘communications impaired’ right now. When I talk to Mr. Sam, he launches into a running dialogue of useless chatter at about a hundred decibels, then I talk to Isabella, and I can’t understand a thing she says. I think the best thing for me to do is drive out there and see what he wants. At least, that way, we can ‘play Charades’.”

When Don drove up at the Grayson ranch house, Mr. Sam was sitting on his front porch, waiting for him. Even before Don could get out of the service van, Mr. Sam was coming toward him, wanting to know details about everything Don was planning to do, even though he could only hear about half of every third word Don said back to him.

After the job was done, Mr. Sam paid the asking price without hesitation and continued to chatter loudly, showering Don with praise about his workmanship and comparing it to olden times, when a man took pride in his work. Finally, Don was able to tactfully wave goodbye and drive away.

A week went by before Mr. Sam called again. This time, I answered the phone to compliments about Don’s work that soon launched into his predictable dialogue about his dear, departed mother, his ornery neighbors, and the way things used to be in the good-old-days. Finally, he admitted the reason behind his call. He had now lost the key to his front door.

Don went out again, replaced the lock with one that could be pinned to match the new back-door lock. By the time he’d finished, Mr. Sam had once again told him about his dear, departed mother and was starting in on his ornery neighbors. Don collected his money, bid Mr. Sam a fond farewell, and hastily beat a retreat before the good-old-days could be broached.

A couple weeks later, a phone call informed us that Mr. Sam was locked inside his own yard. A high fence surrounded his house and, somewhere in the house or yard, he had lost the key to the padlock that secured the gate. Somebody suggested using bolt cutters, but Mr. Sam didn't have any, and he wanted somebody to come let him out right away. What's more, he wanted them to bring a new lock. After all, he shouted, one of his ornery neighbors might find his lost key and try to open his gate.

Don sent one of our guys armed with a new lock and bolt cutters to deal with the problem.

Mr. Sam was impressed. He heaped endless compliments on our man for his quick and efficient handling of the matter. Then, obviously delighted with the prospect of a brand new audience, Mr. Sam launched into his usual dialogue about his dear, departed mother.

The following week, Mr. Sam came into the store. Still praising Don and our service man in his usual booming voice, this time he homed in on our newest employee, whom he'd never conversed with, before.

"I want you to know, I found every last one of those lost keys." He tossed a bunch of keys threaded on a piece of cord onto the counter. "Don and that other young fellow were so nice to help me, I decided I'd bring the keys in here to the store, since they don't fit anything around my place, any more. I figured you might use them for something. You know, as my dear, departed mother used to say..."

Don could hear Mr. Sam's loud voice clear back in his office. He could tell by the sound of things there was no way our new guy would escape the coming dialogue. He quietly reached over and gave his office door a gentle push, thinking that there was something sort of nice about Mr. Sam's predictability. Just as the door closed, Don couldn't help smiling as he heard Mr. Sam launch into, "You know, things aren't like they used to be. Why, I can remember, back in the good-old-days, when..." **RI**

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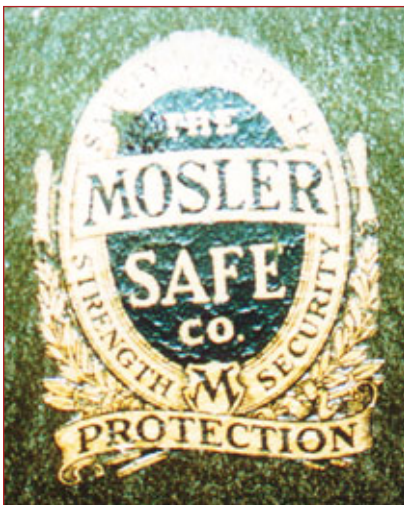
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MOSLER Fire Safe, Again!



by Dale W. Libby, CMS

Sometimes a particular safe will keep turning up in your work experience. The safe in this article was a patient of mine about 30 years ago. I opened it for a school teacher and his wife. Last week the husband died and left me the safe. I had to go and pick it up, and the best surprise was that it was open. I decided that we should visit this old friend and renew our acquaintance.



1. An Old Mosler by any other name is still a Mosler!

In *photograph 1* we see a classic Mosler Logo. On the label we see the MOSLER Safe Co., with Safety-Service around the top of the logo, and around the bottom Strength-Security. There is also the Mosler stylized "M" with the banner of PROTECTION along the bottom of the logo. Quite a statement and quite true.

On one series of my business cards where I used my company name of SAFEBUGSTERS, I added the next line in red ink. It said "I Ain't Afraid of No Mosler." It's an inside joke to be sure, but most customers had seen the name in their travels and understood the meaning nonetheless.

This type of Mosler safes were the ones that I cut my safecracking teeth on. In *photograph 2*, we see a close up of the dial and red label above the dial. This label states that the safe is a Class C 1 hour safe and a class T-20 Burglary safe. A pretty moderate rating for a combination small office safe. It's almost a current BF rating.

What made this unit a T-20 (minute) rating by Underwriters Laboratories? It would have to include the addition of a rather good hardplate and a diabolical relock bar. A hardened pinned spindle $\frac{1}{2}$ " in diameter downsized to $\frac{5}{16}$ " into the lock also adds to this obsolete UL rating. For this time, the safe was formidable. The hardplate was reasonably

hard. When this safe was new in the early 1950's, there were no hardplate rigs or StrongArm drill bits. These units were not easy to drill through from the front. On the previous opening I drilled at 12:00 o'clock and transferred to 70 to open. More on that later.

Photograph 3, shows a view of the dial and opening handle. The dial says MOLSER on it so we can be reasonably sure that there is a Mosler lock behind it. The opening handle is a dead giveaway as being Mosler. It is plastic (Bakelite) with flat sides and a wide bottom. It screws to the handle cam cap. If you



2. Close up of Dial and Mosler UL Label-Class One Hour.



3. Classic Configuration of Mosler Dial and Plastic Handle.

ever have to replace this handle, try using the handle from a cheap combination screwdriver with a long bolt from the bottom. It looks good and adds some color to the safe door. **Photograph 4**, shows the handle in the open clockwise position.

There are several features that have to be faced by the safe technician when attempting to open this locked safe. First, the dial and dial ring are specific. Although you can change the dial to a $\frac{5}{16}$ " threaded modern spindle, you will lose the punching protection that the specific Mosler dial gives the unit. As I stated earlier, it is $\frac{1}{2}$ " in diameter until it meets the inner mounting/relock activating plate. Then it is turned down and threaded with $\frac{5}{16}$ " modern threading ($\frac{5}{16}$ x 32).

Trying to punch the dial spindle on this safe is like trying to pound a $\frac{1}{2}$ " bolt through a $\frac{5}{16}$ " hole. Something has to give, and it is the mounting plate with the relock lever. So, possibly

drilling outside the dial ring is a good idea; if not through the dial ring.

The second problem is that the safe uses the B101 style lock, which cannot be replaced with a modern Group II type combination lock. The



4. Dial LEFT to stop and turn handle to open. (Clockwise to open).

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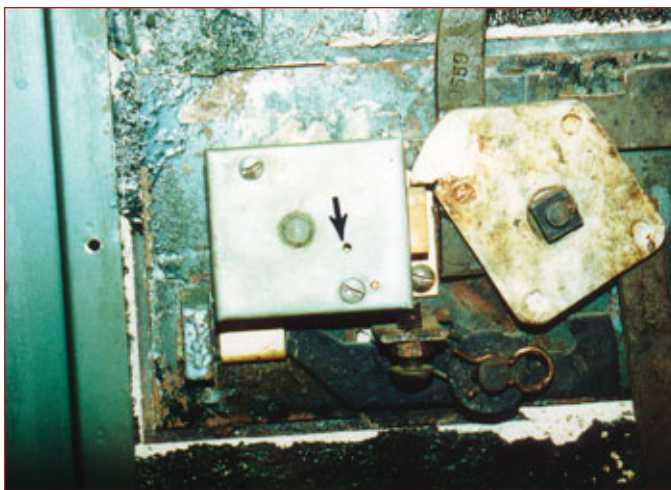
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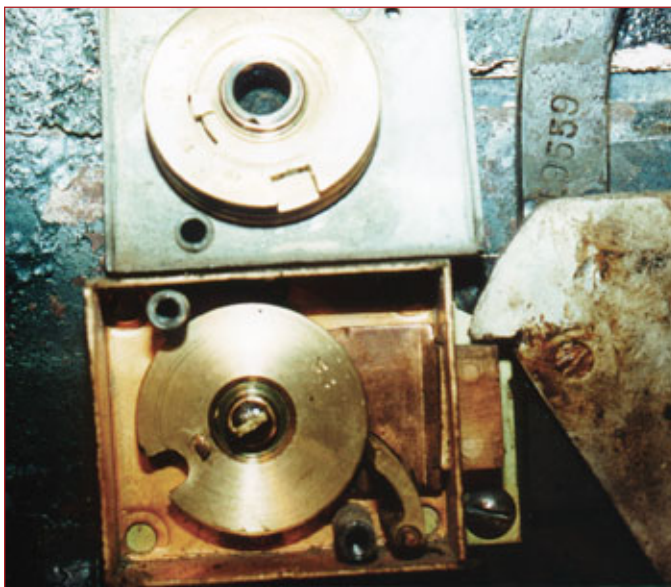
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O.I.D.06/03



5. Mosler Classic B101 Lock. Note Arrow=ICU hole for checking combination. Diabolical relocker parallel to lock and bolt behind clip.



6. Hand change mesh wheels on cover. Drop in point is 70.

footprint is different. When you work on one of these antique units, you must try to preserve the existing lock and spindle if possible so repair is achievable. Let us now look at the inside of this Mosler.

This is a classic Mosler mounting style of lock, handle cam, and relocker that was used for 30 or more years with different types of combination locks. (See photograph 5.) There is a mounting plate beneath the lock case held on by two mounting screws. There is a large adjustable screw below the lock case to support the lock. Below the handle cam is a large clip and washer that hold the spring-

at 4:00 from the inside view. Why do we need an ICU hole at all?

With all my 40 plus years working on safes, the most problems I ever had with lining up combination numbers has been on Mosler Safes in general. The wheels on this safe are mesh

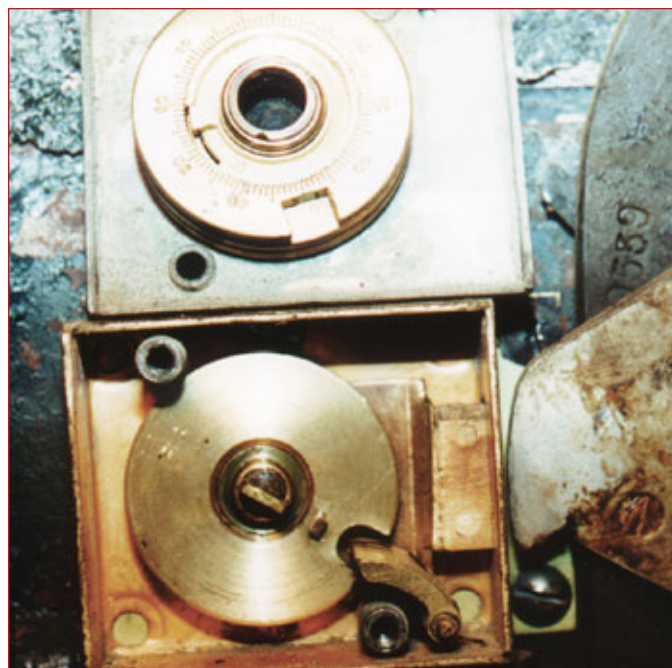
loaded relocker to the safe door. At the left end of the mounting plate is a cup affair that captures the end of the relocker and holds it in place. The relocker runs parallel with the lock and handle cam. We will see it better shortly.

Also, in this photograph is an arrow pointing to a small hole in the case. Little Tommy and I call this an "I C U" hole. This lets us peek into the lock case to see the wheels line up at the drop-in position which is at 70 as seen from the outside of the safe. It is approximately

type hand change wheels. It is easy to change the combination, but sometimes hard to get the dial and the wheels to agree. The safe dial is like a telephone line. If you dial, or input the number 25 on the dial and ring, you would expect if all the wheels were set to number 25, they would all line up at the drop-in position. Not true. On many of the Mosler hand change wheel combination locks that I have serviced over the years, I would write with a pencil or marker, either on the lock cover or on the safe insulation "+ 3, or - 5." This would refer to how many numbers off the combination was from what was set on the wheels.

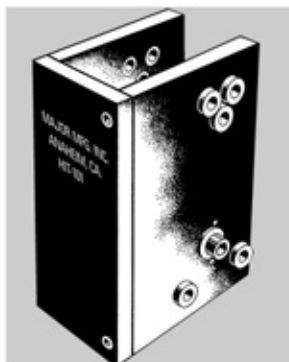
If the customer wanted a specific combination like 25, 50, 80, and the mark on the safe lock cover was "+2," then I would set the wheels at 27, 52, and 82. This would allow the customer to dial his combination even though that was not the specific and exact combination set on the numbered wheels.

The "ICU" hole made the process faster in determining the exact factor number, rather than taking the cover on and off several times before determining the

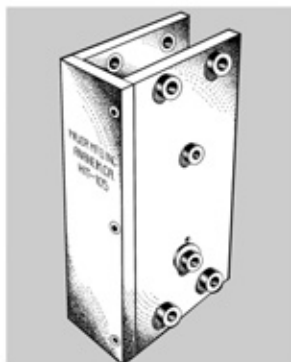


7. Dial turns left to STOP and bolt moves into lock and the safe is open. Screw visible below handle cam is one of the screws that hold the relocker in place.

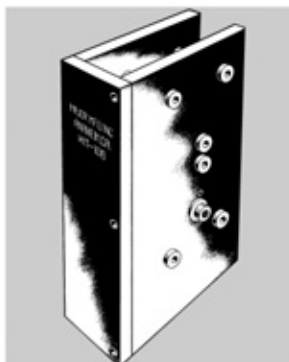
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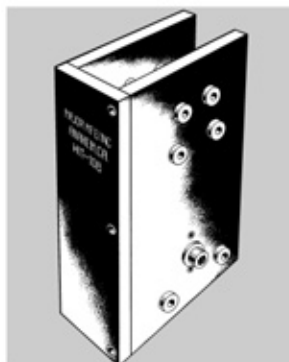
HIT-101
For Unican 6000



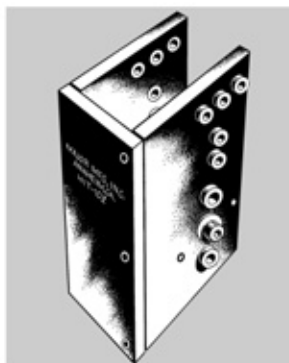
HIT-105
For Mas-Hamilton
PowerLever



HIT-106
For Unican Solitaire Prox

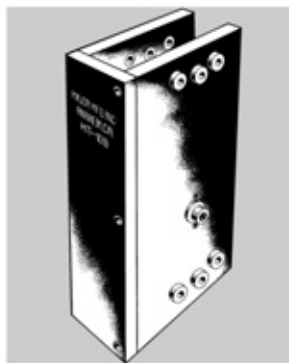


HIT-108
For Unican EE-1000 series

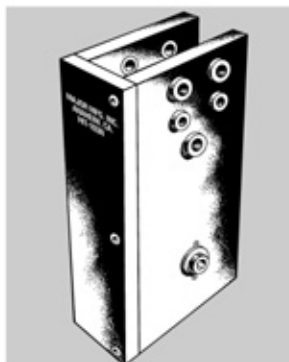


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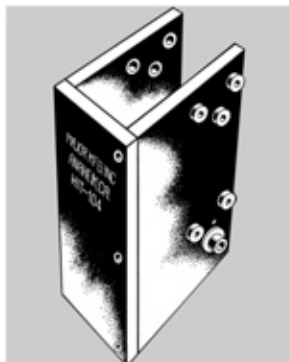
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Continued from page 72

exact “off” number factor. Bring a marker for this procedure. You will not be disappointed.

In **photograph 6**, the back cover has been removed by taking out the two flat screws. The cover and wheel pack has been set on top of the lock. We can see the large drive wheel and the “Flapper” that withdraws the bolt. The bolt on this lock is large and when withdrawn into the lock case is flush with the side of the combination lock.

In **Photograph 7** the dial has been turned LEFT to Stop. Mosler was famous for this action. Most locks use a right to dial stop motion. With right to stop locks, usually two contact points are discernable to the manipulator. Most left to stop locks, including Yale gear type locks, only give a single contact point. I have found this to be true in most instances. Again. In the last two photographs, you can see the screws above and below the handle cam that hold on the mounting plate of the lock. Now for the fun part.



8. When dial is punched, relock lever springs up and locks stud on bottom of handle cam and prevents safe from opening.

The lock case mounting screws have been removed in **Photograph 8**. I rattled the dial and the relock lever shot into the locked position. This lever has a

large hook on it that fits nicely into a stud attached to the underside of the handle drive opening cam. The lever is spring-loaded and it is a physically powerful spring. One way to defeat this relock lever is to drill about 4" below the centerline of the handle and combination lock just outside the dial ring at number 75. This will put you below the hardplate. You will have to drill away the insulation to see the lever. Most times you will also have to fan your drill to give you a larger hole with which to push the lever up.

This is not an easy procedure. I have had to defeat this relocker setup many times, and because of the positioning of the mounting plate and case screw, rising up far enough to unhook from the handle cam plate is much easier said than done.

Also seen in this photograph is the lock case positioning screw. This has a double function. It insures the combination lock is mounted level, and also acts as an anti-turning feature if the handle is hammered. The handle cam nut is held on by being drilled

and tapped for an 8/32-inch screw through the edge of the nut. The handle spindle is also cut down to break when excessive pressure is put on it during a break in attempt.

Take it easy when working on old safes. The parts: combination lock, spindle, dial ring, and relock setup may be specific

to that lock alone, and nothing you have may retrofit easily. Open Mosler safes and Prosper! **TNI**

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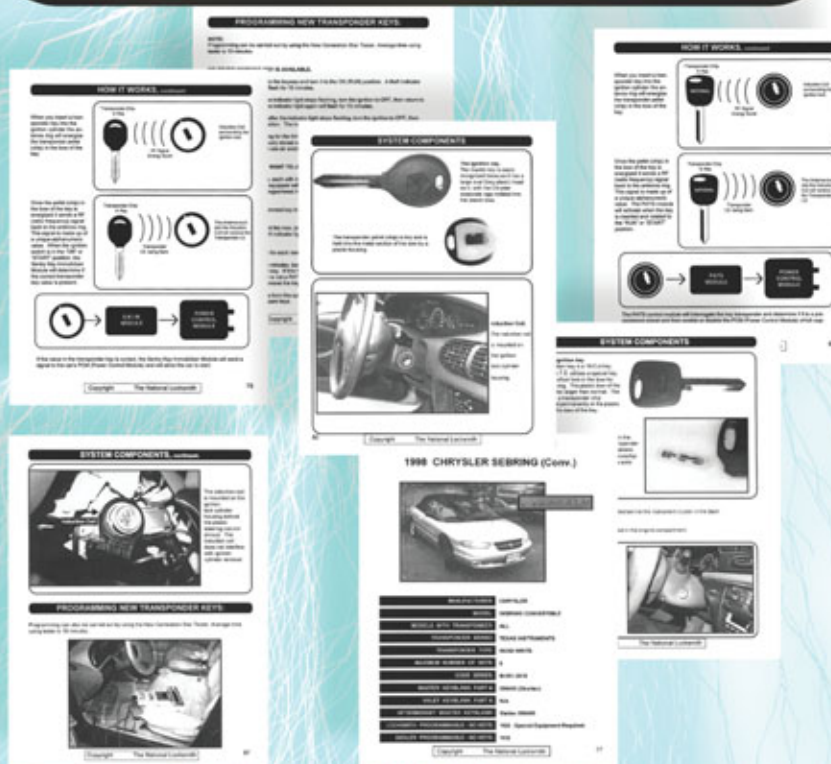
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2001 MITSUBISHI Galant

– part 2 –

Concluding the service procedures
on this popular Mitsubishi model.

Trunk Lock

Removing the trunk lock on the Galant is a much easier task than it appears. In fact, if it is necessary to remove a



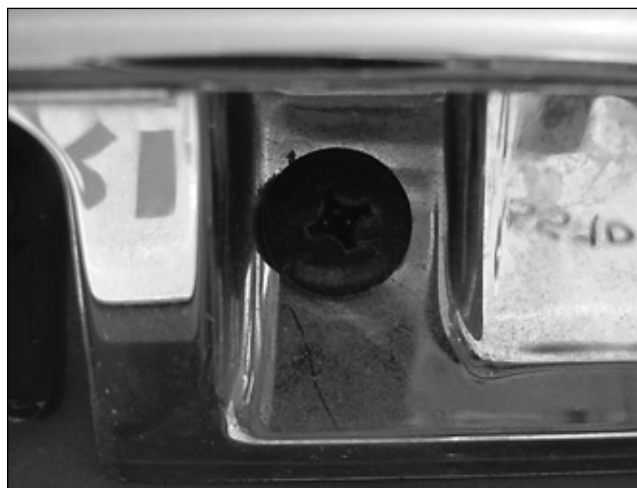
2. The trunk lock is covered by this trim piece.



3. To remove, locate the two mounting screws on the bottom of the trim piece.

lock for key generation, this lock is a good first choice. (See photograph 1.)

Taking the lock out of the deck lid requires that the deck trim piece covering the lock first be removed. (See photograph 2.) Looking from beneath the trim piece (see photograph 3.) two mounting screws are visible. (See photograph 4.) Remove the two screws using #2 Phillips or Posi-drive screwdriver. (See photograph 5.) Now, gently pry the trim piece off of the deck lid. Plastic mounting



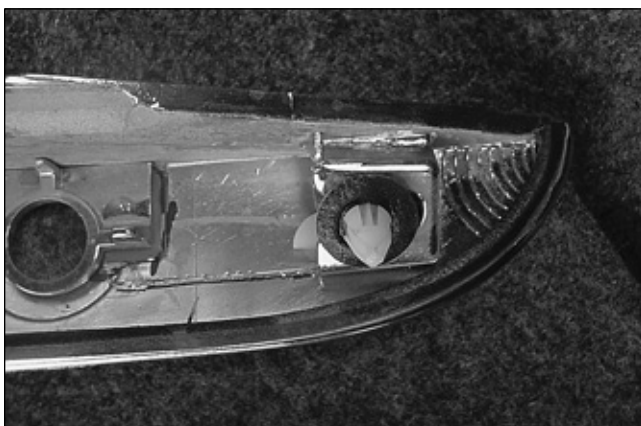
4. The screws are simple #2 Phillips or Posi-drive screws.



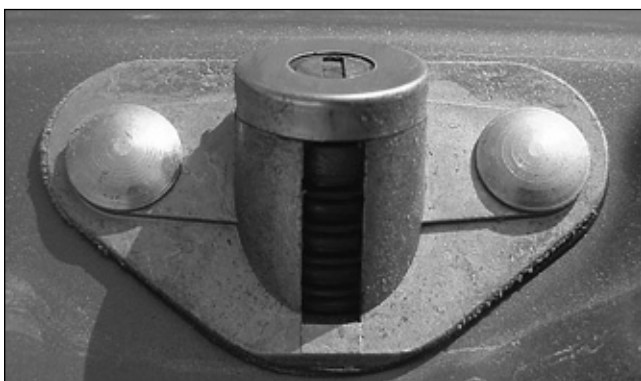
1. Found on the deck lid, the trunk lock of the Galant is easy to remove.



5. Remove the two mounting screws.



6. Plastic clips are the only things left holding the trim piece to the deck lid.



7. The tumblers can be read through the weep or drain hole, make key generating easy.

clips found at each end of the trim are all that's left holding the piece to the lid. (See *photograph 6.*) Be careful not to damage or break the trim while prying it off of the trunk lid.

The trim piece removed, the lock fully exposed. If necessary, the tumblers can be read directly through the weep or drain hole without removing the lock from the deck lid. (See *photograph 7.*)

If the lock needs to be removed for service, disconnect the trunk lock linkage rod from the lock's pawl. Use a 10mm socket to remove the lock's two mounting bolts. (See *photograph 8.*) Pull the lock out of the deck lid. (See *photograph 9.*)

The trunk lock has a snap-on, reusable cascap and is serviced similar to the door lock. (See *photograph 10.*)



8. Remove the lock rod and the two lock mounting bolts.



9. The lock is easily pulled from the deck lid.



10. The trunk lock disassembly is similar to the door lock.

Key Programming

Programming a new key to the Galant requires Mitsubishi's MUTII diagnostic tool. The software for this device is stored on a component referred to as the ROM Pack. (See *photograph 11.*)

One variation from other automotive diagnostic tools is found on the OBDII compliant cable of the MUTII. Most other manufactures include a single OBDII compliant connector or Data Link Connector (DLC). The MUTII,



11. The MUTII with it's ROM Pack. The ROM Pack is plugged into the slot provided at the bottom of the MUTII.



13. The MUTII startup screen.



14. Connect the MUTII connectors to the vehicle.



12. Plug both connectors into their respective and mating receivers.

however, includes the OBDII compliant DLC as well as a secondary connector. It is important to connect both plugs to their respective and mating connectors or receivers before programming can begin.

Finally, in order to complete programming, a PIN number is required. Fortunately, Mitsubishi PIN numbers are model specific and vehicles specific. In other words, all Galants (to date) share the same PIN number, all the Montero Sports share the same PIN number, etc.



15. Turn the MUTII on.

Following is a list of the known PINs:

- Galant - 2949
- Montero Sport - 3828
- Montero - 5176
- Diamante - 0426
- Sebring, Stratus, Eclipse - 6876



16. Depress the Hazard Warning button 6 times to activate the program mode.

To Program:

Plug both of the MUT II cable connectors into the respective connectors in the vehicle. (See photograph 12.)

Insert new key into ignition lock and turn to ON or RUN position. (See photograph 13.)

Remote Programming

Aside from programming Mitsubishi transponder keys, the MUTII is also used for programming the remote key fobs into the vehicle. This added service is growing among locksmiths and provides for a substantial amount of added income for a rather easy procedure.

Before trying to add a new remote key fob, however, make sure that the correct fob is used for the vehicle. The safest way to approach this type service is to purchase the



17. Depress the fob's buttons slowly three times to complete programming.

fob from an authorized Mitsubishi dealer based on the year and model being serviced.

Mitsubishi Remote Key Fob Programming:

1. Insert key into ignition. DO NOT TURN ON!
2. Connect MUT-II scan tool to DLC. (See photograph 14.)
3. Turn the MUTII on. (See photograph 15.)
4. Within 10 seconds, press the Hazard Button 6 times. The door locks will cycle, indicating that the system has entered the program mode. (See photograph 16.)
5. Press either button on the remote slowly three times. The power door locks will cycle, indicating that the remote has been programmed. (See photograph 17.)

To program additional remotes, repeat step 4 within 10

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seconds of programming the last remote. Up to 4 remotes can be programmed.

Car Specs

Key Blanks

STRATTEC: Master 598992, Valet 599479

Ilco: MIT9PT

Jet:

Locks

Ignition: STRATTEC 704607, 704606 (Push Button)

Door: STRATTEC 704608

Deck: STRATTEC 704609

Service Kits

STRATTEC 704605

Code Specifications

Code Series - F0001-1571

HPC: Code Card - CF306

Cutter - CW1011

Stop - Standard Red Tip

A-1 Pack-A-Punch: Kit - PAK-MT1

Punch - 88T

Curtis: Cam - DC-5

Carriage - DC-5A

Framon: First Cut - .407"

Space Block - #5 (.083)

Stop - Lay spacing clip against left side of vise and slide key in from the right.

Spacing & Depth

NO.	Space	Depth
1.	.985	.327
2.	.902	.302
3.	.820	.276
4.	.737	.251
5.	.655	
6.	.572	
7.	.491	
8.	.407	

Tumbler Positions

Position	1	2	3	4	5	6	7	8
Ignition	X	X	X	X	X	X	X	X
Door	X	X	X	X	X	X	X	X
Deck	X	X	X	X	X	X	X	X

For more information on servicing the Galant, STRATTEC service parts or transponder equipment and supplies, contact Tom Seroogy or Randy Mize at Lockmasters Inc., (800) 654-0637 x342.



PROGRAMMING PROCEDURE		
	Screen Display	Action
1.	MULTI Startup Screen	
2.	<Main Menu> 1. System Select 2. BELT TENSION 3. FUEL PRESS 4. Volts 5. Ohms 6. Oscilloscope 7. Drive recorder review 8. System Setup 9. External communication	Select: System Select Press: Yes
3.	<System Select> MFI IMMOBILIZER ELC-4AT SS4II ECS AUTO A/C TCL ABS HBB CRUISE CNTRL SRS - AIR BAG SWS ETACS	Select: IMMOBILIZER Press: Yes
4.	<IMMOBILIZER> 1. DTC 2. Data List 3. Special func. 4. Volts 5. Ohms 6. Vehicle speed	Select: Special func. Press: Yes
5.	<SPECIAL MENU> 1. Key ID register Please Wait	
6.	<SPECIAL FUNC.> Key ID Code registration Please enter a password. xxxx	Enter: Four Digit PIN Number For each digit, use the UP and DOWN arrows to scroll through and select the correct number. When the correct number is displayed, use the RIGHT arrow to move to the next digit. When the complete number is entered - Press: Yes Current PIN Numbers Galant - 2949 Montero Sport - 3828 Montero - 5176 Diamante - 0426 Eclipse - 6876
7.	Are you ready? Completed	Press: Yes
8.	<SPECIAL FUNC.> Key ID Code Registration Registered key 1 Another Key ID to be registered? If yes, press [Y] after inserting a new key	

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THRU THE KEYHOLE

A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Editor, Greg Mango, at (630) 837-2044.

Bianchi USA, Inc., the North American division of Bianchi 1770 opened its doors in the spring of 2003. Bianchi offers a range of competitively priced precision key cutting solutions. Bianchi key machines were designed with heavy use in mind and are an ideal choice for Locksmiths that place product value high on their priority list.

The product line includes the Bianchi 101 manual duplicator, the Bianchi 104 semiautomatic duplicator, and the 303 high security laser and dimple duplicator.



Bianchi 101.

The Bianchi family began the long journey in security products in the Cadore valley of North Eastern Italy when Massimo Bianchi's great great grandfather, Prospero Bianchi, founded an artisan workshop for producing wrought iron keys back in 1770. A pioneer in his field, Prospero Bianchi paved the way to a tradition of locksmiths in the family, which has been passed down from father to son for five generations.

Prospero created the first key catalog, which was printed and distributed throughout Europe in the early 1800's. His son Celestino continued producing iron keys and developed the skills until he was able to make copies from originals.

In the 1950's, Massimo's father, Camillo Bianchi, began working in his father's workshop as an



Bianchi 104.

apprentice. He invented the key duplicating service, which allowed cutting a duplicate key immediately without having to contact the lock manufacturer, which was the usual time consuming method.

Camillo grew the business and transformed it to a national company. This resulted in the subsequent transfer of the company from the small mountain village of Cibiana di Cadore to the industrialized city of San Vendemiano in the province of Treviso. In 1963, Camillo founded the firm "Italiana Chiavi e Affini". Mass production of keys began for door locks and cars, along with mechanical cutting machines.

The eighties saw the technological development of the family company increase as key cutting systems rapidly evolved and improved to meet the ever-changing needs in the market place. In 1988, Massimo created the first electronic key cutting machine. This opened an even wider horizon for market and product development.

In 1997, Massimo signed a merger with the Unican Group and served as Vice Chairman. A subsequent merger with the Kaba Group followed.

Now in its third century, the Bianchi family has returned to their roots. Massimo left the large corporate world and returned to the world of

locksmiths. In the era of the global market and unbridled innovation, Bianchi 1770 acquired two small key machine and key manufacturing firms with the objective of better serving customer needs with a new company on a human scale, a locksmith's scale that is. This return is to a more natural dimension with a wealth of experience and tradition.



Bianchi 303.

The Bianchi philosophy has returned. This is a winning philosophy that for centuries, through awareness to customer needs, attention to details, and critical choices regarding quality and innovation, has revolutionized and developed the entire world market for keys.

Scott Hinton is heading up Massimo's North American division. Scott has worked for Massimo for over 6 years in the security industry. You can visit the corporate website at www.keyline.it or www.bianchi1770usa.com to learn more about Bianchi USA. **TL**

TECHNITTIPS

YEAR-END PRIZES



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1st Prize

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Punch Machine



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PowerLever 2000



3rd Prize

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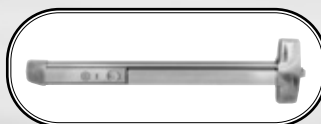
4th Prize

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5th Prize

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7th Prize

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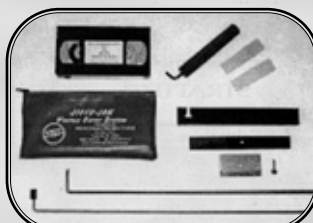
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\$500 in ASP Auto Locks



9th Prize

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10th Prize

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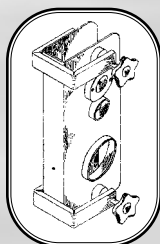
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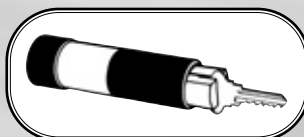
18th Prize
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19th Prize
A-1 Security
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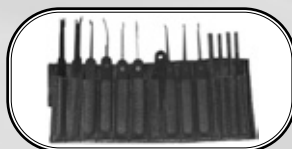
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22nd Prize
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How To Enter

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Tips Start
on Next Page



**JET KEY BLANKS
WINNER:
Ford Ignition Trick**

Replacing defective Ford ignitions is one of the more common locksmith automotive jobs. To remove the old ignition it has to be turned to "ON" which turns on many electrical functions. Rather than disconnecting the battery I carry a Ford plug without tumblers or housing. When the defective one is removed I use the plug to engage the "T-slot" and turn "OFF" the electronics in the vehicle that come on when the ignition is in the "ON" position. Simple answer to a common problem.

*Mike Spencer
Canada*



**WEDGECO KEY
EXTRACTOR WINNER:
Cut In Strikes Fast
Without Splintering**

I guess all of us were taught that when installing new locks to cut in strike mortises with the trusty hammer and chisel. I did it for years. Tired of occasionally splintering some old wood and chipping paint, I tried a small router. I made a jig to go over the jam and then cut the hole for the new strike. That worked, but it was time-consuming, and the round corners still had to be cut with a chisel.

Recently I discovered that Dremel makes a 1" diameter saw blade that mounts on a standard mandrel. That did it. I made an aluminum template, slightly smaller than the standard strikes on the Schlage "D" locks, placed it in the correct position; and then ran the saw blade all the way around. After the outside was cut, it was a simple matter to clear out the opening with a chisel.

The fit was perfect—there were no splinters, and the paint wasn't even chipped. Total time to cut in the strike mortise is about three minutes.

*Steve Shields, CPL
California*

Editor's Note: Steve, thanks for the tip. I would like to mention that "prepping" a strike mortise as you describe could definitely save time and effort when cutting for strike. Especially on heavily painted doorjamb, such as might be found in older homes. For those who might like to make their own template, they can utilize any spare strike plate they might have in their "junk box" and

A Few Words From Jake...

"Any technology, sufficiently advanced, is black magic to the uninitiated!"—Author Unknown

Stop and think about that, for a moment.

If you had never seen a match lighted, and someone struck one in front of you, you would, at the very least, be awed. If you had never known what a parachute was and someone dropped out of the sky, dangling at the end of a parachute's lines into your remote corner of the world, you would think that the guy had the gift of flight. In both instances, without *initiation* into the mysteries of matches and parachutes you would be forced to consider both, black magic.

Most of us understand (at least on a very rudimentary level) the principles of aerodynamics and flight. Few of us hesitate to board a plane, or fear that we will not safely reach our destination. Yet, how many of us, when we look into the sky and see a 747 close up can help but feel wonderment that such a heavy and immense object can really fly? No matter how much we think we understand about lift and thrust, way deep down inside our brainstem, a little voice whispers, "*Black magic!*"

Locksmithing is, to the uninitiated, that way too.

To a home owner, the fact that a locksmith can pull up to their home, disassemble their locks, rekey them and put them back on the door in working order is, well, *black magic*. To the business person that calls you because their key won't let them into their place of business and you solve their problem for them—it's almost slight of hand. And to the motorist who's locked out of their car; you may be a knight in shining armor, or—depending on their attitude—the biggest con artist since Ponzi. But your skills, to those who do not understand them (the uninitiated), might still border on the occult.

Today, many locksmiths are facing seemingly incomprehensible black magic-based technology in the form of electronic ignitions, electromagnetic locks, proximity readers, biometrics, audit trails, ohms, volts, watts and resistance values. Concepts that are sufficiently advanced to seem technologically obscure.

I remember as a new locksmith listening to an instructor open his class on VATS ignitions feeling a sinking feeling in my stomach because I was convinced that VATS was just too complicated for me. I was intimidated by a concept that I did not understand. Afterwards, as the owner of a new VATS interrogator, some VATS keys, and with the proper *information at my disposal*, GM's (then) new Vehicle Anti-Theft System had lost its mystique.

Well, here's a news flash for those of you who shy away from becoming a part of the *new* technology: "Get in, or say goodbye!"

I'm not preaching doom and gloom from the standpoint that I think mechanical locks are going to disappear from the face of the earth. What I am telling you is that every time you walk away from a magnetic lock job, or an electronically operated deadbolt; Every time you refuse to consider installing an annunciator or an electric strike; Every time you turn down an electro-mechanical narrow stile door lock installation or service call because you lack the information necessary to perform that work—is one more job you will not make money on and one more customer you will not get. And that's a shame!

If you're not doing "electronics" because you haven't taken the time to attend a class, or show up for a seminar regarding the hot, new, easy-to-install systems that are available today, you're missing out on some "electrifying" profits.

I know that electronics will never be everyone's "bag" but more of us need to recognize that it is a growing and viable arena that we can participate in if we just take the time to gather a little information and lose our fear of the "unknown". Once you take those first tentative steps; you'll be surprised at how quickly the black magic of electronic locks, egress and entry become an everyday *trick* that you can use to put shekels in your pocket!

See y'all next month...



*by Jake
Jakubowski*

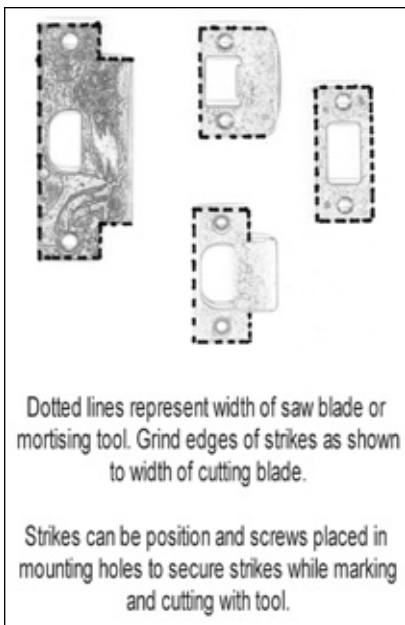


Figure 1.

carefully grind the edges of that strike down to whatever dimensions they need for the particular saw blade they use. (See figure 1.) Also, for those who may not be aware of it: a sharp chisel with a straight cutting edge works best under most circumstances.



**STRATTEC WINNER:
Impressioning Tip**

I've been asked quite a few times recently to make keys to several Master padlocks and other products that use their pin tumbler cylinder. Most folks will say not to waste time with these, but sometimes people need keys to a group of locks that are keyed alike. I prefer to impression these locks.

I've read about lots of methods over the years, but my personal preference is successful almost every time (I haven't used more than one blank per lock the last four times). It does take a little practice, but is worth the effort and can be used for other locks like Ford 5-pin and the old Chrysler cylinders, too.

Prepare the blank by cutting zero cuts at all the spaces in the lock. Then with a round file, file at an angle at each space to form a blade at the center of each cut. Don't lower the top of the blank any; just file each side toward the center to form a little "divot" blade at each space. This divot will guide your file when you start filing later.

Hold the blank in your impressioning pliers, and insert the blank into the lock. Bind and bump as in normal impressioning and look for marks on the blade.

The divots will help trap the pins and will usually mark on the side toward the tip of the key. File at an angle (to the plane of the "blade" you've marked) to remove material in the spaces that marked, keep each space at a knife-edge and the marks will show up nicely.

Repeat until the cylinder turns. I have found that you will notice a loose feel in the key when you get close to turning. Decode the key and cut one on a code machine.

You can also use the "pull" method instead of bumping the key with this blank preparation method. Just bind, pull, and then check for marks. Both methods work well.

*James Barthelmy
Tennessee*



**HPC WINNER:
Taking the Tangle
Out of Car Opening
Tools**

Getting tired of untangling car tools to look for the right one? I found an easier way to store and locate my car opening tools.

I made a trip to my local home repair center and purchased approximately 2 feet of 1 x 2 furring

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strips. I cut the 1 x 2 down to 12" to fit my metal shelving, and I also bought some clips, which are used on cabinets to keep the doors closed. You can find them in the hardware department, they cost approximately 64 cents a piece and come with screws.

I mounted the clips to the edge of the 1 x 2 with the provided screws and then mounted the 1 x 2 to my metal shelving in the rear of my van as it is easier for me to get to from there. It doesn't rattle or bounce around while you are driving. I used my label maker to identify and

number the tools and placed them right behind the tool. (See figure 2.)

For my long reach tools I used a larger clip, which is used for holding mops and broom handles in closets. I mount these clips at the top of my shelving. On these clips, I use felt tape on the inside lip to keep them from

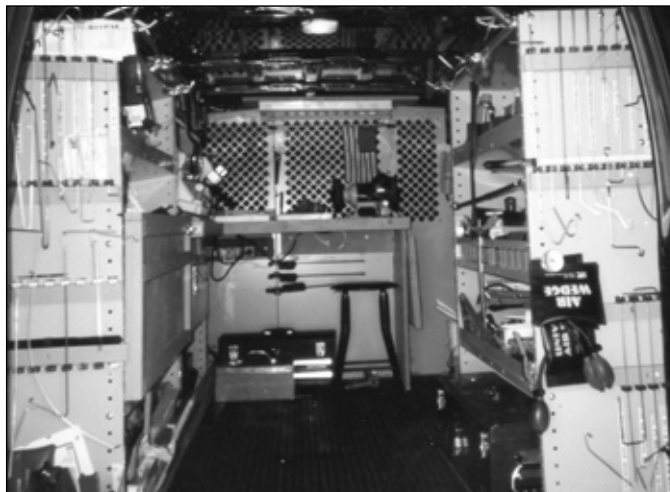


Figure 2.

rattling, as the opening is much larger. It's the same material you use to put under chairs and tables to protect the floors.

Below the tools I installed a catalogue holder in which I store my wedges and air jacks. Now my tools are never tangled and easy to identify.

*Frank X. McCann
New Jersey*



**SARGENT AND
GREENLEAF
WINNER:
Ford Expedition
Face Cap Removal**

This particular tip has to do with the 2002–2003 Ford Expedition. I have rekeyed two of these vehicles so far. There are four "feet" which hold the face caps on the Expedition's door locks. The feet are press fit into a small channel (possibly $\frac{1}{16}$ " wide that runs the circumference of the lock cylinder.

If you look at the lock from the rear, you will see the wall of this channel. Because of this wall, you can't get anything under the edges of the face cap to pry up on the feet. However, if you take a $\frac{1}{16}$ " drill bit and drill into this wall from the rear, you will only have to drill to a depth of $\frac{1}{16}$ " or so before you break into the channel. Place one or two of these holes on the same side and you can use an ice pick, or dental pick, to pry up on the feet.

I've found that if you drill very carefully, it is only necessary to drill one hole on one side of the cylinder. With the hole properly drilled, you can pry up one of the feet, rotate the face cap, pry up the next one and continue until all four feet have been freed from the channel. This should only take you a minute or so, and it saves the trouble of ripping or destroying the face cap.

*Redd Bristow
California*

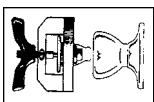


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A-1 SECURITY
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WINNER:
**Deadbolt
Modification**

An elderly lady wanted me to install a new deadbolt and knob on her front door. Simple enough, except she wanted them low enough that she could open them if she fell and couldn't get up. She has very bad arthritis. The trouble was that would leave the existing holes in the door—and the new locking points would be very low on the door.

We don't have a lot of home break-ins in this area, but this set-up would make it really easy to break the door open. I spent one day thinking on how to get the deadbolt unlocked and the latch retracted all while lying on the floor. Yes, I actually laid on the floor and looked at my locks at home, trying to get an idea of how difficult such a maneuver would be.

Here is my solution: I took a standard Grade 3, single cylinder deadbolt and drilled a hole through one end of the thumb turn, large enough to get a split ring through. I then took a 33' to 36' piece of rope and tied one end to the ring. I drilled a hole in the center of a dowel rod ($\frac{3}{4}$ " in diameter, by $3\frac{1}{2}$ " long) through which I passed the rope and tied it off, to make a handle.

The rope's length depends on how high the deadbolt is. I tested this first with some beaded chain I had but found that the rope worked better.

For the knob: I installed a panic-proof grade 3 knob with a door handle adapter. I also put a rope with a handle on this.

I would have used a "unit" lock on this door where turning the knob, or depressing the lever would have unlocked both the latch and the deadbolt. Unfortunately, cost was a consideration and I had to work within the customer's budget. The main thing is that I enabled this lady to open her door (even if she was lying on the floor) and helped her gain peace of mind while maintaining the best security she could afford.

*Rodger Long
Illinois*



Your best answer!

Question:

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**ILCO KEYBLANKS
WINNER:
Another
Impressioning Tip**

When impressioning a first key, instead of using the “soot” method from a small flame, I use a black magic-marker. (I think *Sharpie’s* work the best) Simply darken the cutting edge of the key blank, insert in the plug, and rotate back and forth 9 or 10 times. (Actually, the more times I rotate the key, the better the impression the better the marks appear to me).

I find this works great with pin tumbler and wafer tumbler locks.

*Jeffrey S. Borowski
Wisconsin*



**KEEDEX WINNER:
Power Cord Control
Tip**

I know that cordless tools are becoming more and more popular and that corded tools are becoming less so. I still, however, have a large collection of corded tools in my work van. Last count was 1 drill, 2 angle grinders, 1 pencil grinder, 1 hot glue gun, 1 Dremel® and 1 soldering iron.

Now, here’s my problem: because I am always short of space I tend to store all my power tools in a locked box in my van. Whenever I pull the required tool out I spend the next ten minutes untangling all the power cords.

I finally got so fed up with this routine that I decided to come up with a more convenient method of storing the tools and eliminating the cord tangling.

What I did was cut all my cords, which averaged about 1.8 meters each (that’s about 6' in American) to about 30cm (approximately one foot). I then made up a separate extension cord measuring about 1.8 meters (6'). I keep that cord in a separate bag in my power toolbox. (See figure 3.)

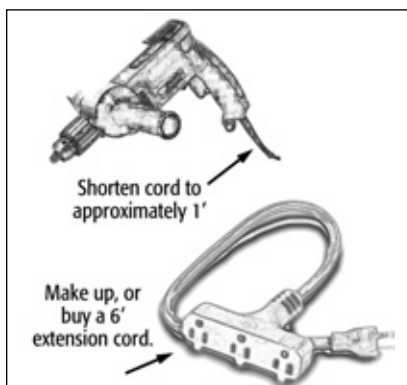


Figure 3.

Now when I show up on site for a call, I can just grab my new hassle-free “cord-less” tools, the bag with the extension lead in it and off I go. This little time saver has stopped me wasting time untangling wires and also trying to neatly roll it all up again at the end of the job!

*Ed Gorgulho
South Africa*



**TECH TRAIN
TRAINING VIDEO
WINNER:
Substitute Key for
Daewoo Leganza**

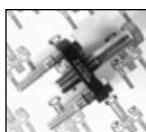
I was called to a local Nissan dealership to make a key for a 2000 Daewoo Leganza. This model uses a DWO5AP key blank. I had plenty DWO5AP. Of course, they would not work.

My Ilco key reference chart does not list a substitute.

After I tried several other blanks I found that the Suzuki blank SUZ151X185 worked perfectly. After finding the blank I pulled and disassembled the trunk lock. Each tumbler is numbered so originating a key is easy.

It took me less than fifteen minutes to make the key, reassemble and reinstall the lock, once I had found the perfect substitute.

*Douglas M. Bibee
North Carolina*



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Jeep/Saturn/Chrysler
Ignition Trick**

It concerns a simple method for removing the Strattec Ignition (#705098) from various Dodges, Jeeps, Chryslers and Saturn’s.

This method does not destroy the ignition, although you have to be careful not to lose the active retainer, so you can use this technique whether the ignition is damaged or not. You’ll need a tool like an ice pick, and a pair of pliers, the locking types are nice if you have them.

A spring steel plate holds in the active retainer on this style of lock from the exterior. The shape of the plug will stop you from pushing the

retainer in unless the cylinder is turned, but the way the retainer pin is installed is its weakness.

First, you’ll need to remove the lower part of the column shroud, and also possibly the panel underneath the column. Once the shroud/panel is gone,—depending on the model. Locate the active retainer and insert your ice pick, or probe, alongside the pin. Tilt the ice pick in such a way as to pull the retainer pin down and out of the hole.

At the same time, grab the pin with your pliers (use your locking pliers if you don’t want to lose hold of it) and pull down with a slight jerking motion. The pin should pull free of the flimsy spring steel fork holding it in place, and the ignition will then be in a position to be removed, with little or no resistance.

From there, you can either replace the ignition (if necessary) or you can drill an access hole for the sidebar, pick the lock, and fit a key.

*Ryan Hernandez
California*



**MAJOR
MANUFACTURING
PRODUCTS
WINNER:
Latch Fix Tip**

Recently I was called to repair the lock in an interior wood door. The customer reported that it would not latch and it was difficult to close.

I noticed that the top of the door above the lock was hitting the frame and in order to close the door I had to lift up on the lockset. When I did this I also noticed that the frame moved on the hinge side. This is a common problem on many of the calls I receive. It seems that when these frames are installed the dry wall crews who generally install them use dry wall screws to attach the frame to the 16 gauge metal stud.

With the higher usage doors the screws often wallow out their holes and cause the doorframe to loosen. The way I have found to repair this is to remove the doorstop trim from the frame on the hinge side. Close the door,

place an air wedge beneath the door—directly below the lock—and inflate it until I hear the latch “click” into the strike. I then install $\frac{1}{4}$ " x 3" self-tapping screws with a $\frac{3}{8}$ " drive head through the frame and into the stud. This has always worked very well and the trim fits nicely over the screw heads.

*Weyland Schaefer
Texas*

Editor's Note: Weyland, the problem you describe is very common with much new construction. Your “fix” is right on the money. I use a screw called a PlyMetal screw. It is self-tapping for both wood and light metal. All you need to do is put it in place and drive it in. Since it is a flat-headed screw and you're going to put the doorstop (or rabbit) back on the door, you don't have to do any counter sinking on the frame.



**LAGARD WINNER:
Securitron Mag
Lock Tip**

While installing a Securitron MagLock, we were having trouble trying to get an alignment for the lock on a very active door. The paper template had been torn twice by folks opening the door while we were trying to mark out drill sites and we were getting a little frustrated.

I decided (since the door was properly marked) to mount the armature, or “shoe plate”. Then I used a 9-volt battery, to connect to the magnetic lock and placed the lock against the armature (with the magnet upside down to protect the leads that come out of the top) and also against the doorstop on the frame.

The battery offers just enough current to keep the magnet in place.

Then it was a simple matter of using a long bit in the drill to mark the holes for the mounting hardware. Once that was done, we measured the drill point for the wires to go up into the header and completed the install.

*Jay Christie
North Carolina*

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PRO-LOK's Blue Punch

by Sal Dulcamaro, CML



When cutting keys by code, there is a difference between the motorized code machines and the key punches. Each type of code machine has its advantages and disadvantages. The speed of the milling cutter on a motorized machine allows it to cut virtually any kind of key, but its need for electricity (to run) limits its portability. The punch machines tend to be highly portable, but often have limitations on what key can be originated.

Within the category of key punches, there are different brands and different types. They range from lighter to heavier construction, and multi-use to dedicated key punches. Some of the multi-use punches can be used for both automotive and commercial type keys by switching out various profile punches. The shape of the key cuts will include the width and angle of the cut. Automotive keys tend to have narrower widths and looser cut tolerances. With space and depth accessories, multi-use punches can be converted to cut various brands of keys, even with the same punch physical profile. It is thought by many that a dedicated punch is best suited to high volume use when tight tolerances are needed.

Considered one of the fastest and easiest punch machines, PRO-LOK's Blue Punch is heavy duty and built to last. (See photograph 1.) The Blue Punch is a dedicated machine, but it is made in different

versions to cut keys to factory original specifications. The Blue Punch base model number is BP201 and a suffix at the end completes the model number with various brand designations.

The following are the dedicated Blue Punch variations available from PRO-LOK by model number and keys that it cuts. The BP201ARFC is designed for use with Arrow Flexcore



1. PRO-LOK's Blue Punch.

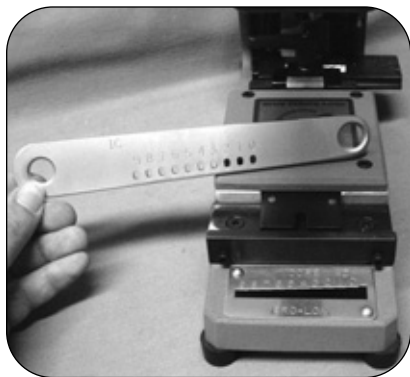
keys. It will work with the following Flexcore keyways: 51, 52, 53, 54, 61, 81, 83 and 84. The BP201C70 is for Corbin C70 keys. It works with most popular Corbin System 70 keyways. It can also be used with 59 series A1, A2, B1, B2 and D2 keyways, plus 60 series 6 pin. For Dexter and Master (residential) there is the model BP201DE. It can cut keys for the old Dexter lock cylinders and for the short lived Master residential lock line. The BP201FW is for Weiser and Falcon (non IC) keys. The reference sheet indicates that it won't cut the number 8 and 9 depths, probably for key blank thickness. The Weiser and Falcon key blanks are among the thickest around for residential or commercial brand keys, especially at the point of the number 8 or 9 depth positions.

For most A2 standard interchangeable core keys, there is the BP201IC. It is set up to cut Best small format IC keys, Falcon small format IC and Arrow small format IC in A through R, TA through TE and W keyways. It will also work with Arrow 1A through 4D keyways. Depth of cut is controlled through the code bars used with the punch machine. Although A2 is the most common depth system for small format IC, A3 and A4 code bars are also available for use with the Blue Punch. If you change back and forth from A2, A3 and A4 formats, depth adjustment will be necessary on the machine when changing from one format to another. You can get a Blue Punch dedicated for IC A3 or A4 applications, if you do enough volume key cutting and don't want to have to adjust the depths all the time. This model specifically excludes certain small format IC keys including Arrow Flexcore, Kaba Peaks, Insta-Key and others. In some cases, there are dedicated Blue Punch machines in other small format IC key variations.

The BP201KW will cut standard Kwikset keys and Titan keys except for the Titan first cut with near vertical front slope. There will be similar limitations for some new sub-brand variations of Kwikset where there is a similar first cut. Weslock keys can be made on the BP201WK punch. That is the current extent of Blue Punch dedicated punches except for three distinct Schlage setups. The first machine is the BP201SC that is designed to cut the Schlage Classic obverse key sections: C, CE, E, EF, F, FG, G, H, J, K (and L aftermarket blanks only). It will also work Primus

versions of the same obverse key sections. Adding P to the end of the obverse letter sections gives the Primus version. This machine will also work with the Schlage Everest C family of keys and the Everest Primus versions of the same keyways. Excluded are: numbered key section, Quad key sections, Reverse key sections and also the Everest B and D families of keys. A separate dedicated machine is made for cutting Schlage reverse key sections. The BP201SCRV can cut the following Schlage reverse sections: D, DQ, Q, QS, ST, T, U, V, W and Y.

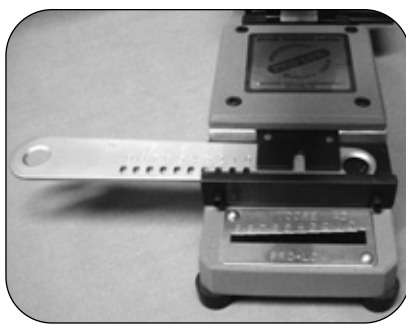
The final Schlage variation of the Blue Punch is the BP201SCEB that can cut Everest B key sections which are identified by the letter B followed by a 3-digit number. Some keyway examples are B123, B125, B234 and B235. The Everest B family of keys coincides with the restricted and patented key system versions of Schlage small format interchangeable core (SFIC). That punch machine is the version I received to test for this article. Included with the BP201SCEB machine is the A2 (IC) style code bar that I am holding just above the Blue



2. The A2 (IC) style code bar.

Punch itself. (See photograph 2.) The code bar inserts from the left to set cut depths, which are numbered 0 through 9. (See photograph 3.) It click stops at each depth position and the depth number is visible in a notch out of the top plate. (See photograph 4.)

Non-Everest Schlage small format IC keys are essentially identical to the Best version lettered keyways and are cut with the BP201IC like other small format IC keys. Those and most other SFIC keys have a modified tip stop for referencing the key spacing. The Everest B SFIC keys have a flat tip, but are shoulder stopped within the I-Core and also when cutting the keys



3. Cut depths are numbered 0 through 9.

with the Blue Punch. The angle, size and shape of the punch profile match Schlage factory specifications and



4. The depth number is visible.

should make keys nearly identical to factory cut keys.

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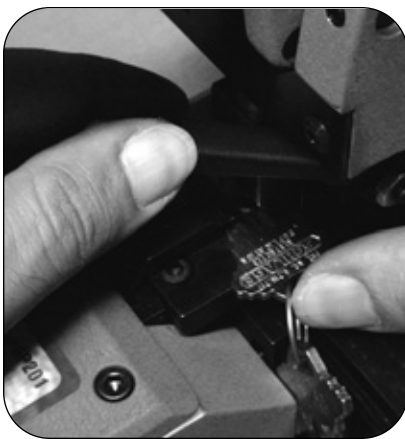
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5. The key is to be pushed against the stop.

Before inserting a new key blank into the jaw, the "L" handle should be turned counterclockwise to loosen it. The key should be inserted from the right side, and locate the top jaw in the bottom milled groove of the key. The key is to be pushed inward until the key shoulder stop makes contact against the stop on the bottom jaw. (See photograph 5.) When positioned properly, the "L" handle should only have to travel a short distance. Loosening or tightening should be not much more than a half turn. Once the key is inserted to the stop position, the "L" handle should be turned clockwise to tighten the key securely



6. The "L" handle is turned clockwise to tighten the key securely.

in the jaw. (See photograph 6.) If you haven't already, move the die carriage all the way to the far left to position it to start key cutting. (See photograph 7.)



7. Move the die carriage far left to position it to start key cutting.


The punch actually moves to each space position and the key doesn't move side to side when cutting.

To cut a key, first move the code bar to the depth cut number for your first cut. Remember that small format IC keys are referenced tip to bow. Push the handle all the way down, in a quick motion. (See photograph 8.) The



8. Push the handle all the way down.

die carriage automatically advances to the next key cut space as the punch handle returns to an upright position. Set the depth for the next cut, and then depress the handle again. The next cut is made and the die carriage again



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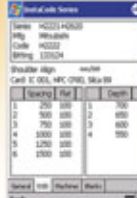
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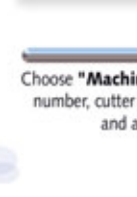
Open Pocket InstaCode and the "Search" Window is ready for you to find your code. Simply enter the known information, click FIND and your code appears on screen.




All space and depth information is displayed in your choice of inches or millimeters.



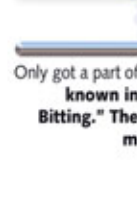
Choose "Machines" and get the card number, cutter information, jaw side, and alignment for your key cutting machine.




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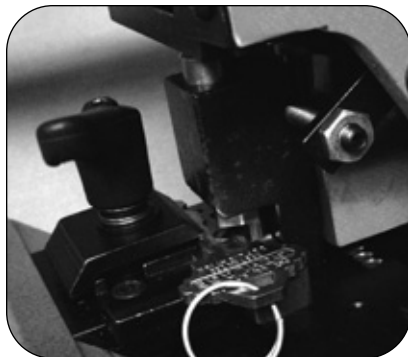




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advances. That process is repeated until all cuts are made on the key.

A close-up shot gives a clear view of the key held within the jaws and the die carriage and punch.



9. The key held within the jaws.

(See photograph 9.) Once the key has been cut, the "L" handle is turned to the left to loosen the jaw so the key can be removed. The cut Everest B key can be seen with its blunted flat tip and top and bottom shoulders. (See photograph 10.) The B125



10. The cut Everest B key.

keyway is stamped into the bottom shoulder to identify it, and the Everest symbol can be seen near the top shoulder. The Everest patent is based on the deep angle groove in the area of the bottom shoulder that operates a check pin in the front section of the Everest I-Core.

A key depth gauge is set into the base of the Blue Punch machine to coincide with whatever style keys that it makes. That gauge is somewhat imprecise and intended to give you a quick check of depths cut into a key. As the punch machine wears or goes out of adjustment, a micrometer would be more suited for machine calibration.

THE ORIGINS OF THE BLUE PUNCH

Although the Blue Punch is currently manufactured by PRO-LOK, its predecessor goes back to the 1960's. What is now the Blue Punch started out as the Codemac 101 in the late

1960's. It later became known as the Keymak. Over time, it was sold under the brand names Armbruster Key Punch, Automatic Security Machine (ASM), City Punch, Schlage 40126, Kwikset Key Cutter #276, Falcon/Weiser 1214 and others. In late 1993, PRO-LOK bought the tooling, parts and more; then proceeded to start manufacturing the longtime popular key cutting punch machine. Although the outward appearance of the Blue Punch hasn't changed that much over 30 years, there have been many refinements and improvements that don't always meet the eye. They help to make a very good machine even better.

There are locksmiths who own some of the predecessor versions of the Blue Punch. In many cases they are still in service cutting keys, but many others may be out of service gathering dust for lack of repair parts. PRO-LOK rebuilds and repairs current version Blue Punch machines and many of the predecessors. You can contact them to find out what you need to get your machine serviced.

For more information on the Blue Punch or other PRO-LOK products, call 714/633-0681. You can write them at: PRO-LOK, 655 N. Hariton St., Orange, CA 92868. **TNL**

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DUCATI

Motorcycles

PART 1

by
**John
Blankenship**



The 2001 Ducati 900 Monster S4 is the first transponder equipped motorcycle to be sold in the USA. For 2002, all of the Monster models and the ST4S model are transponder equipped. For 2003, all Ducati models are transponder equipped. They use Temic transponders.

A special thanks to Bob Nesson of Bob's Lock and Key Service in Whitman, Massachusetts for obtaining the transponder programming and immobilizer bypass procedures for this article. Bob has done us all a favor.



1

This is a 2002 Ducati ST4S sport-touring motorcycle. It requires a programmed transponder key to start the engine.



2

This view from the drivers seat shows the ignition/steering lock located immediately in front of the gas tank. Also shown is the instrument panel with the speedometer on the left, the tachometer on the right, and the display window on the bottom. The display window is used during the programming procedure.



3

The immobilizer light is located on the right side of the tachometer. The silhouette of a key and the word CODE are under the light. If a programmed transponder key is used to turn the ignition on, the light will flash briefly and go out, indicating

that the engine is ready to start. If the light continues flashing, it indicates that the CPU (Central Processing Unit, also known as the computer) has not recognized the key and the engine will not start. The CPU has an energy saving feature in that if the ignition is left on for 15 seconds without starting the engine, the CPU shuts itself down. If this occurs, just turn the ignition off and back on again to start the engine. When the engine has been running and is turned off using the key, the light will flash to indicate that the immobilizer is on. The light will flash slowly for 48 hours and then go out even though the immobilizer is still working.



4

A close look at the ignition/steering lock shows the plastic cover that surrounds it. It is rounded and rises above the face of the lock to make room for the antenna that surrounds the face of the lock. The non-transponder models do not have an ignition lock cover that looks like this.



5

This is a 2002 Ducati 620 Monster. It requires a programmed transponder key to start the engine, as do all 2002+ Monster models.



6

This view from the drivers seat shows the ignition/steering lock located immediately in front of the gas tank and the instrument panel located in front of the handlebars. The speedometer is on the left and the tachometer is on the right.

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7

The immobilizer light is located between the speedometer and tachometer and just above the two black buttons that control the odometer, trip meter, and clock. The same rules apply to this immobilizer light as apply to the immobilizer light on the ST4S model. The display window is located on the bottom of the tachometer. The display window is used during the programming procedure. The EOBD (European On Board Diagnostics) warning light is located directly above the immobilizer light. The warning light is used during the immobilizer bypass procedure.



8

The 2002 Monster models use the same ignition/steering lock and plastic cover as the ST4S. The non-transponder models do not have an ignition lock cover that looks like this.



10

The antenna wire runs under the lock to the left side of the bike where it goes into the rear of an electrical plug mounted on the frame. I rested the antenna wire on the outside of a frame brace to make it more visible for this photo. The wire that runs from the front of the plug goes into a wire loom.



9

You can also tell if the bike uses a transponder by the antenna wire that runs out from the bottom of the ignition/steering lock cover on the right side of the bike.

11



A transponder equipped Ducati motorcycle comes with three keys. The two black keys are operating transponder keys that have been programmed into the memory of the CPU at the factory. The red key is a programming key that is used to program black keys into the CPU. If all of the black keys and the red key are lost, it is necessary to replace the CPU. If all of the black keys are lost but the customer has the red key, you can program from two to eight black keys into the memory of the CPU. A minimum of two black keys are required for programming. At this time the only source for the black transponder blanks is from a Ducati dealer parts department. The Part Number is 59840161A and the retail price was \$37.90 each. The following programming procedures are used whether you are replacing lost black keys or adding additional black keys. If you are adding additional black keys, you need to include the existing black keys during the programming procedure or they will be erased from the memory of the CPU.



12

A code card comes with transponder equipped Ducati motorcycles. It shows the electronic code and the mechanical code. I spoke with three owners of transponder equipped Ducati motorcycles and they leave their red keys at home. However, all of them had the code cards in their wallets.

Mechanical Code: The mechanical code, F8560, is the key code number that we use to cut a key. This code series is not available at this time.

Electronic Code: In this case the electronic code is 78575. The owners' manual states that the electronic code is to be used to start the engine in the event of an emergency. The emergency could be a lost key, malfunctioning immobilizer, or broken transponder. The owners' manual states that dropping the key can break the

transponder located in the bow. There is a procedure to bypass the immobilizer and start the engine in these situations. If the key is lost, a mechanical key needs to be originated as described later in this article.

13

The mechanical code F8560, is also on a metal tag that is on the ring with the three keys that come with the motorcycle.



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14

A close look at one of the keys shows the cuts are 1122412. The photograph does not show the first two #1 cuts because it is the same depth as the blank. However, I was able to distinguish them by looking at the edge of the key.



15



From left to right are a Silca KW14P that is used on non-transponder Ducati motorcycles, an original 59840161A Ducati transponder blank, and a KW15BP. They all fit the same keyway but are different lengths. The shoulder to tip measurements are: KW14P=1.024" (26mm); Original=1.063" (27mm); KW15BP=1.122" (28.5mm). As can be seen, it will be necessary to shorten a KW15BP blank in order to originate a working mechanical key. This is especially critical for the key to work in the tip-stopped gas cap and seat locks.

Next month we conclude, which will include transponder programming and bypass procedures.

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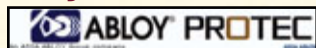
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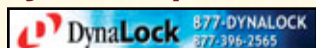
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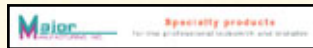


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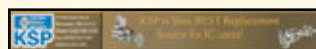
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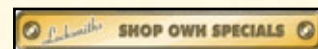
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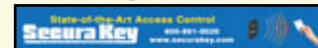
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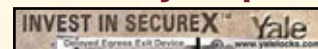
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TEST DRIVE

1599 Combination Cylinder by Ilco



THE NEED

How many times have you been called to work on a door that uses a keyway you do not stock, or at least do not have one in the vehicle? I am willing to bet more than you would care to admit. Even if we could possibly know all the keyways we would need to carry, how could we afford to stock all the locks we would need to cover them all?

An example of what I would have to carry in my area would be Schlage, Weiser, Yale, Kwikset, Corbin, Arrow, Dexter, Lockwood, Russwin, Sargent and Ilco. If I did not have a way to cover these keyways without stocking them all, in all the functions I would need, I would not have room for all the boxes, let alone keeping track of what I have in stock and being able to afford them all.

THE ANSWER

Kaba Ilco Corporation knew of the need to make replacement cylinders in many keyways that would fit into a typical lockset, or at least one that most of us would carry in stock. Since Schlage is a very universal lock and is common in most areas, Ilco chose to use Schlage for the basis.

Early attempts at making a replacement cylinder were fairly successful, but did have a couple of drawbacks, namely having tight

enough tolerances for master keying and keeping the tailpiece attached to the lock.

With the introduction of the 1599 combination cylinder with screw cap, Kaba Ilco has answered both of the shortcomings. The quality has been improved to where you can now use the cylinder in a master key system and know it will work very well. As for the tailpiece falling off, it is now attached with a screw cap, very similar to the one used by Schlage in their original cylinders.

Ilco even went one step further and included three lengths of tailpieces for each of two functions. You can now use the cylinders in rigid and lazy cam installations. With the introduction of the lazy cams, the cylinders can now be used in deadbolt installations as well as key in knob and lever locks. No need to buy both functions again.

THE DETAILS

Kaba Ilco manufactures the cylinders in 30 keyways that fit not only Schlage but most Grade 1 and 2 locksets plus Arrow D, E, F, K, Schlage B100, B200 and B400, H series deadbolts. It is available in both 04 and 26D finishes for a nice finished touch.

Additionally, cylinders are manufactured from solid brass in the good old USA and are drilled to six pins with pinning to five standard.

IN SUMMARY:

DESCRIPTION: Replacement cylinders for most knob, lever and deadbolt applications. 30 keyways available and six tailpieces included with the cylinder.

PRICE: Suggested retail of \$15.75 to \$19.25 depending on keyway and keying.

COMMENTS: A very good quality replacement cylinder with all the bases covered.

TEST DRIVE RESULTS: A cylinder that can be used with confidence. It works and holds up well. Order the most common keyways for your area and be aware of the wide assortment of keyways you have access to from Kaba Ilco.

The tailpieces are OEM quality so the quality is there as well.

As I mentioned before, there is no need to be concerned about using them in the master key system or even a grand master keying job. Need replacement parts? No problem, they are listed as well. This is a well thought out product with the locksmith in mind.

PRICE

Kaba Ilco has a suggested retail price of \$15.75 for the 5 pin version and \$17.75 for a six pin version. Ilco has a \$3.50 upcharge for the Corbin A59 A1-2, Corbin 77, Lori 80 and Lori Centric 90, Russwin 981R, and Schlage F keyways.

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
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